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HAROLD B. WILLE

In the Supreme Court
OF THE
United States

OCTOBER TERM, 1953

No. 425

OLIVER UNITED FILTERS INCORPORATED,
Petitioner,

vs.

HAROLD F. SILVER (an individual),
Respondent.

PETITION FOR WRIT OF CERTIORARI
to the United States Court of Appeals
for the Tenth Circuit
AND
BRIEF IN SUPPORT THEREOF.

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No.

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PETITION FOR WRIT OF CERTIORARI
to the United States Court of Appeals for the Tenth Circuit.

To the Honorable Earl Warren, Chief Justice of the United States, and to the Honorable Associate Justices of the Supreme Court of the United States:

Petitioner prays that a writ of certiorari issue to the United States Court of Appeals for the Tenth Circuit to review the judgment entered by said Court on July 23, 1953 in Cause No. 4574 on the docket of said Court wherein petitioner was the appellant.

This judgment relates to United States Letters Patent Nos. 2,390,131 (Tab 11, Silver Exhibit A) and 2,468,720 (Tab 12, Silver Exhibit B), both issued to Harold F. Silver for a process and machine for diffusing sugar from sugar beets.

The judgment below was entered (Tr. 370) upon an appeal taken by petitioner from the judgment of the District Court of the United States for the District of Colorado.

The action was originally instituted by petitioner, Oliver United Filters Incorporated, under the Declaratory Judgments Act to test the questions of infringement and validity of the Silver Patent No. 2,390,181 (Tab 11, Silver Exhibit A) and respondent, Harold F. Silver, filed a counterclaim charging petitioner with infringement of said patent. In addition, respondent filed a supplemental counterclaim charging petitioner, because of the same acts by Oliver, with the infringement of the then recently issued Silver Patent No. 2,468,720 (Tab 12, Silver Exhibit B).

The District Court, 93 USPQ 87, 91, 92 (Tr. 34 and 35):

1. Held valid all of the claims of both Silver patents. The Court of Appeals (Tr. 370) *affirmed* this decision.

2. Held infringed claims 1, 2, 4, 6, 8, 11, 12 and 13 of the Silver Patent No. 2,390,131. The Court of Appeals *affirmed.*

3. Held infringed claims 2, 3, 4 and 6 of the Silver Patent No. 2,468,720. The Court of Appeals *affirmed.*

JURISDICTION.

This Court has jurisdiction to review the judgment in question under Section 28 U. S. C. 1254 (1).

The judgment below was entered July 23, 1953 (Tr. 370).

MATTER INVOLVED.

The nature of the processes and apparatus forming the subject matter of the suit.

This suit concerns a process and apparatus for extracting sugar solution from sugar beets. Both patents in suit disclose almost identically the same process and apparatus, differing only in minute details, as will be discussed further on in this petition. The following discussion of the subject matter of these patents is, therefore, applicable to the disclosures of both such patents. Both patents relate to the extraction of sugar from sugar beets by diffusion and that is the nature, of course, of the process and apparatus of Oliver charged to infringe the claims of such patents.

Broadly speaking, the process of extracting sugar from sugar beets by diffusion here involved has been admittedly known for many decades (Tr. 190-191) and, as will be discussed briefly in the following, is the diffusion process practiced in Robert's Battery, which, admittedly, has been the battery used in practically all sugar beet plants for many, many years. The following discussion of the general nature of the process of extracting sugar from sugar beets applies to Robert's Battery, the process of the patents in suit, the alleged infringing process, and the prior art processes.

To extract the sugar from sugar beets, the latter are sliced into pieces resembling in shape and size shoestring potatoes, and such pieces are known in the art as "cossettes". To remove the sugar solution from these cossettes, they are immersed and agitated in heated water with the result that sugar solution is expelled or diffused from the cossettes and is simultaneously replaced by water. When the water (known as juice) surrounding the cossettes becomes laden with sugar to approximately the same extent as the solution remaining in the cossettes, a point of equilibrium is reached and diffusion of sugar from the cossettes ceases. For this reason the cossettes are successively (in stages) immersed in the juice which is progressively less laden with sugar so as to effect a substantial complete transfer of the sugar from the cossettes to the surrounding juice.

This progressive depletion of the cossettes has long been accomplished by using a number of separate cells (tanks) in which the cossettes are progressively subjected, as they become depleted, to the progressively less laden juice, so as always to maintain a differential between the sugar content of the extracting juice and the sugar content of the cossettes to the end that the cossettes will finally be substantially completely depleted of their sugar content. In the last stage of the process, when the cossettes are almost entirely depleted, they are subjected to the action of unladen water, whereas in the first stage, when the cossettes are fully laden with sugar, they are subjected to the most concentrated juice. In the intermediate stages the cossettes progressively become more depleted and

the extracting water-sugar solution or juice progressively becomes more concentrated or laden with sugar.

It will, therefore, be seen that the process is generally countercurrent (Tr. 190-191) in that the fresh water first processes the most depleted cossettes and then progressively processes cossettes of progressively lesser depletion until at the end of the process, the extracting solution is most heavily laden and the cossettes are the least depleted. From that point the sugar-laden solution or juice is processed to remove the sugar therefrom and the depleted cossettes are used to make by-products.

The fundamental and specific rules by which this generally countercurrent diffusion process is conducted was old and well known for a long period of time before Silver entered the field, a fact which Mr. Silver admitted (Tr. 112-113).

The disclosures of the Silver patents.

Since both patents in suit disclose almost identically the same process and apparatus, the following discussion is applicable to both.

The Silver patent (Tab 11, Silver Exhibit A) claims are directed solely to the process and the only claims in suits 1, 2, 4, 6, 8, 11, 12 and 13 were all held by the District Court to be infringed. The second Silver patent contains both process claims and apparatus claims, of which claims 2, 3, 4 (apparatus) and claims 7, 9, 10 and 11 (process) were held below to be infringed. The Silver apparatus (known as a sugar beet diffusing battery) includes a number of separate vertically disposed U-shaped cells, each

having parallel downward and upward legs connected at their bottoms. A continuous chain conveyor travels through all of the cells and operates continuously, going down the first leg of each cell, around the base of its U and up the other leg to the next cell, and serves to convey the cossettes progressively and continuously through the battery of cells, and to then discharge the cossettes when they emerge from the upper leg of the last cell. The conveyor, as it passes from the upper leg of one cell to the downwardly extending leg of the succeeding cell, carries the cossettes out of the fluid or juice in the cell and dumps it by gravity into the upper end of the downwardly extending leg of the succeeding cell. The extracting solution or juice runs generally countercurrent, as before stated, to the travel of the cossettes. That is to say, fresh water is admitted in the last cell or the cell from which the cossettes are going to be discharged, and progressively travels by gravity or pumps from the last cell through the entire battery of cells to the first cell, this cell being the cell into which the cossettes are introduced, and then is drawn off for further processing.

This method of conveying cossettes successively through a number of cells, wherein the cossettes are subjected to the extracting action of the solution or juice progressively from the first to the last cell in a continuous action, and wherein the extracting solution travels progressively from the last cell to and through the first cell was not new with Silver, as he admits in his deposition (Tr. 281), and as is disclosed in the patents to Steffen (Tab 13, OL. 8-A), Turrentine (Tab 14, OL. 8-B), Gazagne (Tab 15,

OL. 8-C), Neufeldt (Tab 16, OL. 8-D), Dobler (Tab 17, OL. 8-E), Krauss (Tab 18, OL. 8-F), Rak (Tab 19, OL. 8-G), and Olier (Tab 20, OL. 8-H).

For example, in the Olier patent (Tab 20, OL. 8-H), almost the same type of cells are used and the cossettes are progressively passed through the cells in a like manner by means of a similar chain conveyor. In certain of the other patents, however, a helical conveyor is substituted for the chain conveyor, but this change is of no importance, as admitted by Mr. Silver (Tr. 97). The Olier patent (Tab 20, OL. 8-H) differs from the Silver disclosures in that in the Olier patent the flow of the juice and cossettes is strictly countercurrent. That is to say, the cossettes are conveyed continuously and progressively through all of the cells in one general direction, while the flow of extraction juice flows progressively through the cells in exactly the opposite direction. In the Silver patents this is not true because in each cell or stage the extracting solution and the cossettes travel in the same general direction; that is to say, downwardly in the downwardly extending leg of each cell, and then upwardly in the upwardly extending leg of each cell to the upper end thereof. At this point the cossettes are transferred to the next succeeding cell toward the cossette discharge end of the machine, while the juice transfers to the next succeeding cell toward the cossette inlet end of the machine. Thus, in flow pattern, the flow of the extracting solution is generally countercurrent to the direction of travel of the cossettes, as far as the whole battery is concerned, but the flow of the juice in each

cell is in the same direction as the direction of travel of the cossettes. This is the basis for the use of the flow term "countercurrent concurrent flow".

However, this exact "countercurrent concurrent flow" through a battery of this type is not new in the art and was not originated by Mr. Silver, as he testified in his deposition (Tr. 281). In fact, Mr. Silver had to so admit because this is the exact flow pattern in Rak (Tab 19, OL. 8-G), Neufeldt (Tab 16, OL. 8-D), Krauss (Tab 18, OL. 8-F), Gazagne (Tab 15, OL. 8-C), Turrentine (Tab 14, OL. 8-B), Steffen (Tab. 13, OL. 8-A), and others. The flow in individual cells shown in the Silver disclosures, that is, having the cossettes travel in "downward and upward courses" in each stage and having the juice flow concurrently therewith during such travel, is likewise admitted to be old by Mr. Silver in his deposition (Tr. 281).[1]

We further point out that, according to Mr. Silver's own admissions, his patents do not set forth any formula

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[1] "Q. Now, in your patent, Plaintiff's Exhibit 1, during the time the cossettes are immersed in the juice, the juice and the cossettes flow concurrently, do they not? A. Yes, substantially so.

Q. To your knowledge, was that new at the time you filed this application, in August of 1942, in diffusers generally? A. I do not recall whether I thought so at that time.

Q. We are not interested in that. Did you know at that time, or did you subsequently determine, that that was old at the time that you filed your application? A. Yes.

Q. What did you determine? That it was old? A. That it was old."

* * * * * * *

"Q. At the time you filed your application, was it new or old to have a treatment zone in which cossettes were immersed in fluid flowing concurrently, in which there were upward and downward courses of cossette travel? A. At least subsequent to the filing of my patent application, mentioned, it was recognized that that was old.

Q. You mean that that was old prior to the time you filed your application? A. Yes."

or fundamental and specific rules by which the diffusion process is practiced by his apparatus or by his process. The patents merely set forth generally mechanical steps to follow, which are given heretofore, without giving any directions as to temperature, time of cossette travel, time of cossette submergence, extent or degree of agitation, or other yardstick by which to practice. This was, of course, left to those skilled in the art having full knowledge of the process of diffusion by which the Silver apparatus operates because of the antiquity of that process. This is amply borne out by Mr. Silver himself in his testimony (Tr. 112-114).[2]

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[2]"Q. Do you find anything in your patents that would teach you the effect of temperature on the process of diffusion? A. No.

Q. That is another thing that is left to the engineer, those of skill in the art? A. Yes.

Q. That has been a fact and well known, the effect of temperature on diffusion? A. Largely."

* * * * * * *

"Q. Then what is the factor that determines draft? A. The amount of water fed to the beets.

Q. That is the draft, isn't it? A. No, it is the tonnage of juice withdrawn from the process compared with the tonnage of the beets for the draft.

Q. And if you wish to get substantial exhaustion of the beets, however, and you determine first your draft, let's say you wish 125 draft, then that affects the time during which the beets must be submerged to get complete recovery or substantially complete recovery? A. I'm not sure I interpret your question exactly, but if I may reply——

Q. Go ahead. A. To determine the draft arbitrarily, that is something that is done mechanically by the admission of water to the beets, and a determination of the amount of juice being withdrawn. You can increase or decrease that.

Q. That is correct. A. Now, the higher the draft under equivalent conditions, the lower your pulp loss will be.

Q. The higher the draft the lower the pulp loss? A. Yes."

* * * * * * *

"Q. What effect does time have on the diffusion process? A. Time has both helpful and adverse effects on the diffusion process. Greater time increases the extraction in per cent of sugar, but it also increases the per cent of impurities withdrawn.

Thus, we strenuously contend that all Mr. Silver did was to provide an apparatus which differed from the prior art in minor constructional details, and that he did not invent or originate any new process and that the process claims are merely statements of the functioning of his machine. This is borne out by the uncontradicted testimony of Mr. Shafor (Tr. 190-191).[3]

Q. Now, does your patent teach any of those facts? A. No.

Q. The fundamental physical chemistry laws controlling that have been well known, haven't they, they were demonstrated by Robert? A. Those things I have just mentioned have been well known."

* * * * * * *

"Q. (By Mr. Mellin). Going back to diffusion, then to the effect of substantially or reasonably complete diffusion, the time of submergence is a factor? A. It is.

Q. And the temperature is a factor? A. Yes.

Q. And likewise the differential between the sugar concentration in the beet and the sugar concentration in the juice that it passes through is also a factor? A. That is a factor.

Q. The last factor I mentioned goes back to draft again, doesn't it? A. In part.

Q. But the fact that diffusion depends upon or is influenced and that diffusion is effected chemically by the relationship of time, of submergence, temperature, and the differential between the sugar concentration in the beet and the sugar concentration in the juice, those factors have all been well known, haven't they? A. Largely.

Q. That is, those are the same physical chemistry fundamental laws, by which the Robert patent works? A. The theoretical laws have been understood, but the practical application less so.

Q. Well, now, in the Robert Battery the cossettes are subjected, as they progressively become depleted, to progressively weaker solution, aren't they? A. That's right.

Q. And stating it broadly in that fashion, that is exactly the same as the Morton diffuser, isn't it? A. Stating it broadly, it is."

[3] "Q. * * * Now, in the process of diffusion, is there any difference between the process as carried out in the Morton Diffuser of diffusion that there is in a Robert Battery? A. No.

Q. What is the comparison between the two as far as actual process of diffusion is concerned? A. Robert's Battery is essentially a counter concurrent battery from beginning to end. The only point is that we in the Robert's Battery have no way of transferring cossettes from one cell to the next. Therefore, we

Silver, by expressly disclaiming machines and processes in which the cossettes flow through a horizontally disposed treatment zone from the scope of his patent claims in order to avoid the prior art and to obtain the patent, thereby disclaimed and surrendered the right to now contend to the contrary that his patent claims include such machines and processes.

When Silver filed his application for his first patent (Tab 11, Silver Exhibit A), he included twenty claims (pages 18 to 25 of Exhibit C), not one of which was limited to or defined a process in which each treatment stage included "alternate downward and upward courses of cossette travel". Therefore, *as filed,* the claims included not only the *vertical cells, or stages,* as shown and claimed in the patent, but also "horizontal cells *and stages*" as used in the accused Morton battery and disclosed in the prior art patents. The Patent Office recognized this and

---

manually dump them and get rid of them as soon as they are exhausted. In the two continuous batteries I have seen here and studied, we substitute a mechanical means which will do the transferring and end the manual labor that we use to get them out of the system on the Robert's Battery.

Q. Now, then, on the Robert's Battery, it is a fact, isn't it, that the fresh water that is entered into the battery in the process is first passed through the cossettes most depleted? A. Yes.

Q. And then progressively as that juice picks up sugar, it is progressively passed through cells of cossettes of lesser depletion? A. That is right.

Q. And is that essentially different or essentially the same as the Morton, except for a continuous mechanical movement. A. Essentially the same.

Q. Is there any step in the Morton picture, by the Morton machine, which varies this formula, old formula of sugar diffusion which you have stated? A. No.

Q. Would you state whether or not in the Morton Battery, whether the cossettes are caused to move up and down or just agitated in any other direction, would make any difference as far as diffusion is concerned, or the time rate of diffusion? A. No difference. Relative velocity is the thing.

Q. Relative movement between the cossettes and juice? A. That is right, surrounding juice."

rejected the claims on the disclosures of prior art patents (Exhibit C, page 29), the most pertinent of which are the following which are here in evidence:

Steffen (Tab 13, OL. 8-A)
Turrentine (Tab 14, OL. 8-B)
Krauss (Tab 18, OL. 8-F)
Neufeldt (Tab 16, OL. 8-E)
Gazagne (Tab 15, OL. 8-C)
Olier (Tab 20, OL. 8-H)

The Patent Office, in rejecting the claims, stated (Exhibit C, pages 29 and 30):

> "The claims are further rejected as unpatentable over any of Steffen, Turrentine, Krauss or Neufeldt. Each of these patents shows a diffusion process which comprises the progressive movement of cossettes through a treatment zone having a plurality of separated treatment stages, in the sense that applicant's process is comprised of separated stages, in both of the disclosed embodiments. Juice flows progressively through the stages in a course generally countercurrent to the cossette travel, and concurrent in each of the treatment stages. The references show both mechanical propulsion and gravity flow, sealed and unsealed. The rate of flow is not shown to be critical and whether the rate of flow of the juice be greater or less than that of the cossettes is a matter of choice which may well be left to the judgment of the operator."

In response to this rejection, Silver acquiesced therein and *canceled all of the original claims* and substituted fourteen entirely new claims (Exhibit C, pages 32 to 39).

The new claims likewise did not define the process as including "alternate downward and upward courses of cossette travel" and included both vertical machine operation, as shown in the patent, and horizontal machine operation, as in the accused Morton machine and prior art machines. These claims were also rejected (Exhibit C, pages 44 and 46) and were canceled (Exhibit C, page 47) by Silver. Silver then submitted another entirely new set of claims (Exhibit C, pages 47 to 57, incl.) which became claims 1 to 11 of the patent in suit (Tab 11, Silver Exhibit A). These claims differed from the previously rejected and cancelled claims in that each and every one of them defines and limits the process to one in which *each treatment stage includes "alternate downward and upward courses of cossette travel"*.

Silver, in arguing that the claims so limited distinguished from and constituted invention over the prior art and that such "upward and downward courses of cossette travel" was a material part of his invention, stated as to such limitation in the claims as follows (Exhibit C, page 58):

> "In this connection, it should be noted that the cossettes which are the material being treated vary considerably in specific gravity, to such an extent that at times they float on the juice with which they are mixed, while at other times they sink in such juice. As a result, any treatment which requires the movement of the cossettes through a horizontally disposed treatment zone cannot insure adequate and uniform extraction, as the juice-cossette contact areas of such zone are relatively small in proportion to the volumetric capacity of the zone."

Note that in such statement (stated by Silver to be correct in his testimony, Tr. 117 and 118) Silver contends that horizontal stages (such as applicant's and prior art patents employ) would not insure adequate and uniform extraction, and from this contended that the newly submitted claims which excluded such horizontal stages were patentable over and patentably distinguished from the prior art patents cited.

Silver, on page 59 of Exhibit C, amplifies the difference in effect on extraction between his claimed "upward and downward course of cossette travel" and the cossette travel in horizontal cells (like the accused Morton machine) by stating (Exhibit C, page 59):

> "Applicant uses the arrangement shown in Figs. 1 and 2 to provide upward and downward courses in which the juice and cossettes are so intermixed that all exposed surfaces of the cossettes are continuously and completely in contact with juice through the entire range of the concurrent movement. Further, during said movement the juice is impelled by the cossettes and tends to drag against said surfaces to insure a substantial penetration of the juice into said surfaces.
>
> "Particularly in the upward course, the juice is moved in opposition to gravitational influences until it reaches the elevated point of withdrawal, and in this action a substantial penetration of cossette surfaces results because of the gravitational urge. Thus, applicant attains a high degree of extraction in a relatively short treatment interval, while using gravity flow in the countercurrent circulation of juice. The operating cost of the operation is very low, while the efficiency has not been duplicated on a commercial scale by any other process."

Silver reiterated on page 59 of Exhibit C that if the machine employs a horizontal tank with a spiral type of conveyor (which the accused Morton battery employs) for movement of the cossettes in the tank, as shown in the prior patents, a uniform mixture of juice and cossettes cannot be obtained. We quote (Exhibit C, page 59):

> "The arrangements shown in Turrentine and Steffen employ a horizontally disposed tank having a spiral type conveyor for movement of the cossettes. With juice in the tank and cossettes fed thereto, they may either float on the surface of the liquid or sink to the bottom, depending on their specific gravity, and thus there would not be a uniform intermixture of juice and cossettes such as applicant provides."

Silver then makes the flat admission that the claims distinguish from the prior art and are patentable because they are limited to a process in which each stage includes upward and downward courses of cossette travel, as follows (Exhibit C, page 60):

> "The rejected claims have been cancelled and a new set of claims substituted therefor. All of the new claims are based on claim 35, *which distinguishes from the cited art practices in reciting the treatment of the cossettes at each stage in upward and downward courses and the withdrawal of the juice near the top of the upward course* to permit draining of the cossettes before they are again brought in contact with the juice." (Italics ours.)

After these statements and contentions by Silver, the claims were granted.

After formal allowance (Exhibit C, page 61), Silver added five additional claims, which are (Exhibit C, pages 62 to 66) claims 12 to 16, inclusive, of the patent in suit (Tab 11, Silver Exhibit A), each and every one of which include the express limitation that each "stage including alternate downward and upward courses of material travel". The patent (Tab 11, Silver Exibit A) in suit then issued with all of the claims so expressly limited.

Thus, it cannot be seriously questioned that Silver in order to avoid the prior art and obtain his patent (Tab 11, Silver Exhibit A), limited the patent claims to a vertical type machine and mechanical process in which each treatment stage included *alternate downward and upward courses of cossette travel.* This limitation was inserted into and remains in each and every claim of that patent to expressly avoid the prior art machines and processes in which the cossettes were directed through *a horizontally disposed treatment zone* just as in the accused Morton machine.

There is no "alternate downward and upward courses of cossette travel" in each cell or stage of the Morton battery in its operation within the meaning of that phrase as used in the claims of the first Silver patent, Tab 11, Silver Exhibit A.

As before set forth herein, each claim of the first Silver patent is limited to a process in which each stage (meaning the travel of the cossettes through one cell) includes "alternate downward and upward courses of cossette travel". In the Silver machine, each cell is a vertical U-shaped cell and the cossettes are dropped into baskets at the top of one leg of the U, and the baskets are forced downwardly by their connection through the moving chain

down through that leg of the U, around the bottom of the U, and then up to the top of the other leg of the U, where they are discharged into the next cell. Silver contended before the Patent Office, as set forth herein, in order to secure the allowance of these claims over the prior art, that this defined a new step materially different from that employed in batteries having *horizontal cells* as shown in the prior art.

However, for the purposes of this suit and to show that the Morton battery in its operation came within these limited patented claims, Silver now makes a contrary contention which is that in the horizontal cells of Morton there are "downward and upward courses of cossette travel". To find such "downward and upward courses of cossete travel" in the Morton horizontal cell was not only difficult for Silver, but also apparently for the trial Court because the trial Court and Silver seem to disagree to some extent as to just where such "downward and upward courses of cossette travel" are found in the Morton battery. For example, on this point Silver testified in his deposition (Tr. 280) as follows:

> "Q. Does the Morton diffuser have upward and downward courses of cossette travel in its operation? A. It does.
>
> Q. Will you please tell us, as precisely as you care to, what part of the travel of the cossettes through the Morton diffuser constitutes what you term upward and downward courses of cossette travel? A. The movement down into each cell of the cossettes——
>
> Q. Let us take that one—the movement down into each cell. That is when they are dumped into the cell by the transfer mechanism? A. That is right.

Q. All right, go ahead. And the next? A. —— and the rotative effect of the screw in imparting an upward and downward movement of the cossettes within the cell, and the upward movement of the cossettes in the final transfer mechanism.

Q. That is, 'In the final transfer,' that is when the fork lifts the cossettes out of the one tank and rotates them and drops them into the next tank? A. Yes."

The trial Court found the "downward and upward courses of cossette travel" in each cell as follows (Tr. 34):

"* * * The rotation of the spokes of the open scroll in the Morton Machine effects a downward movement of the cossettes and their submergence, and from that position upward travel is compelled by the lifting action of the Morton fork. * * *"

Both of the above explanations of how the "downward and upward courses of cossette travel" occur in a horizontal cell ignore the true meaning of that limitation in the claims as defined by Silver as before set forth in obtaining the allowance of the claims. Also, the trial Court overlooked the fact that if the upward and downward courses occur in the Morton battery, as stated by both Mr. Silver and found by the trial Court, then these claims do not distinguish from the prior art patents; for example, the patent to Steffen (Tab 13, OL. 8-A), which uses a rotary or helical screw (like Morton) to move the cossettes and juice through a horizontal cell and a similar rotary screw to elevate the cossettes out of the cell, in a fashion the equivalent of the Morton battery as far as that operational step and mechanism is concerned.

The prior art is replete with horizontal cells showing interrupted screws for the purpose that Morton uses his to advance the cossettes and juice longitudinally of the cell; for example, see the patents to Gazagne (Tab 15, OL. 8-C), Krauss (Fig. 2) (Tab 18, OL. 8-F), and Dobler (Tab 17, OL. 8-E). In other words, as clearly shown by the file wrapper, as herein set forth, Silver distinguished his process from processes of the prior art like Morton's by the express insertion of the limitation "upward and downward courses of cossette travel" and gave that limitation a clear and unequivocal meaning as set forth hereinbefore, and should not at this time be heard to now attempt to expand his claims to include the prior art devices from which he expressly distinguished and said were different. Our position is that if these claims do not distinguish from the prior art patents above referred to by the limitation "downward and upward courses of cossette travel" in each cell and, consequently, include the Morton battery, then they also include the prior art batteries and processes and the claims are clearly invalid. If, however, those claims distinguish by that limitation from the prior art, then by the same yardstick they do not include the Morton battery and noninfringement is clear.

The Silver claims do not patentably distinguish from the teachings and disclosures of the prior patents, particularly the patent to Olier (Tab 20, OL. 8-H), Krauss, Fig. 1 (Tab 18, OL. 8-F) and Rak (Tab 19, OL. 8-G), even if the limitation in the process claims of the "downward and upward courses of cossette travel in each stage or cell" is strictly construed.

Although the Silver claims may distinguish linguistically in minor details from the prior art disclosures, those prior art disclosures show the claimed processes and

apparatus completely in substance. For example, the prior art patents above referred to all disclose a diffusion process in which the movement of the cossettes is continuous through a series of cells or zones, or stages, for diffusion, and in which the cossettes are fed into one end of the battery and are discharged at the opposite end. They also disclose that this latter end is the point where the diffusion juice enters, and that it travels countercurrently through the various cells and is discharged at the opposite end of the machine precisely as in the patent disclosures. In other words, the process of diffusion is exactly the same.

Also, it is shown to be old in these patents, except Olier (Tab 20, OL. 8-H), the fact that while in a treatment cell or stage, the diffusion juice travels concurrently with the cossettes. Also, in the prior patents the cossettes are drained during transfer from one stage or cell to the succeeding cell with the drainage juice going back into the cell from which the cossettes are lifted. Also, in these prior patents the liquid is subjected to a screening action before it passes from one cell to the succeeding cell or stage, and the liquid and the cossettes are separately discharged from the battery.

The only manner in which Silver distinguishes from these prior patents is in unimportant details unaffecting the process or operation of the patents as a whole. It is true that certain of these patents include additional features, such as compressing of the cossettes, but inasmuch as the claims do not exclude such a step, they certainly read on and include within their scope these prior art practices and are, consequently, invalid. In this connec-

tion, the Olier patent (Tab 20, OL. 8-H) shows Silver's almost precise apparatus, except the fact that the diffusion juice runs directly concurrent to the travel of the cossettes in each cell as well as generally, but this poses the question of whether or not in view of all of the other patents (which show it to be old to use the countercurrent concurrent flow cycle) it would be invention to take the Olier apparatus and substitute for its countercurrent flow the countercurrent concurrent flow of the other prior processes disclosed in the prior art. We urge strenuously that such is mechanical skill and not patentable invention, and that the claims in suit are invalid.

In Appendix I to this brief we have made a detailed comparison between typical claims of the two Silver patents and two selected prior art patents to show that these claims include within their scope these prior art patents and are thus invalid.

It would certainly appear from this record and from the contentions of the appellee Silver herein that if the processes of Steffen (Tab 12, OL. 8-A), Krauss (Tab 18, OL. 8-F), Rak (Tab 19, OL. 8-G), Neufeldt (Tab 16, OL. 8-D) and Gazagne (Tab 15, OL. 8-C) came after the issuance of the Silver patents, it would be contended that those processes and apparatus infringed the Silver patents. Therefore, this raises the application of the rule well known to this Court "that which would infringe if later would anticipate if earlier."

The process claims in suit numbers 7, 9, 10 and 11 of the second Silver Patent (Tab 12, Silver Exhibit B) are invalid in that those claims do not define an invention different and patentably distinguishable from the process claimed in the earlier issued Silver patent.

Silver's first patent (Tab 11, Silver Exhibit A) issued on December 4, 1945, and his second patent (Tab 12, Silver Exhibit B) issued almost four years later, to-wit, April 26, 1949, on an application filed September 28, 1945 (three months before the first patent issued), so that for approximately three months' time the applications were copending.

When the process claims 7, 9, 10 and 11 of the second Silver patent are compared with the disclosure and claims of the first Silver patent, it is obvious, first, that the two are directly to exactly the same process. Second, that the process claims of the second Silver patent define nothing different or anything which constitutes an invention over the process claims issued in the first Silver patent. The difference between the two sets of process claims of both patents was succinctly stated by counsel to the District Court, and we adopt such a statement as follows:

> "Claim 7 (of the second patent), which is typical of the process claims in this patent, is also of interest, but it will not be set forth in full here because it will be simpler to consider it as including all of the steps of claim 1 of the first patent, plus the improvement step of—
>
> " 'subjecting said liquid to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course.'
>
> "In other words, this claim is a process claim covering the same steps as those constituting the process

of the first patent, except that it is limited to the new and improved feature of draining below the liquid level, as illustrated in Figure 5 of the patent."

Therefore, obviously, the only difference between the processes claimed in the two patents is the point at which the liquid is screened before it discharges from one cell to another. This difference is not a difference in substance but merely a difference in words, as Mr. Silver so aptly pointed out in his testimony at Tr. 105-106, where he testified on this exact point as follows:

"Q. There is practically no difference in point of elevation of the discharge of the juice from a cell in the first and second patents, is there? A. That is right.

Q. The only difference is that in one you get a larger screen area to effect screening? A. In the second.

Q. In the second yes, and in the second patent you have foranimous trays which aids in the drainage? A. That is right.

Q. And that is the only difference between the first patent and the second patent, material difference? A. The only material difference."

In view of that testimony, it cannot be seriously contended that the process claims of the second patent can be held as patentably distinguishing from the process disclosed in and claimed by the first patent. It is true that in claim 11, for example, there is an additional limitation over claim 7, which adds to claim 7 that the liquid moves at a different rate than the divided material along the course of concurrent movement of said materials. There is no proof in the record that this is the case in the

Morton battery, but even if it is so, this step added nothing patentable to the claims as was so aptly expressed by the Patent Office examiner (Exhibit D, page 92):

> "Since the rate of flow is not critical the recitation in claim 45 of 'a different rate' does not constitute a patentable limitation."

A DETAILED COMPARISON OF THE ACCUSED MORTON MACHINE WITH THE PRIOR ART PATENTS IN EVIDENCE CONCLUSIVELY SHOWS THAT THE MORTON MACHINE IN ITS CONSTRUCTION AND MODE OF OPERATION FOLLOWS THE TEACHINGS OF THE PRIOR ART AND NOT THE SILVER DISCLOSURES.

The disclosure of the Steffen patent (Fig. 1 thereof) as compared with the accused Morton machine.

This prior art patent, Tab 13, OL. 8-A, according to the evidence, describe and diagrammatically illustrates apparatus having substantially the same operational steps of the accused Morton machine and similar and equivalent mechanical elements for performing such steps.

The Accused Morton Machine.

The accused Morton machine is constructed and operates as follows:

1. a plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end

2. the direction of the travel of the juice through the entire machine is generally countercurrent to the direction of travel of the cossettes

The Steffen Disclosure.

(See Tr. commencing page 195.)

The apparatus shown in Fig. 1 of the Steffen patent is constructed and operates as follows:

1. a plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end

2. the direction of the travel of the juice through the entire machine is generally countercurrent to the direction of travel of the cossettes

3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other	3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other
4. The juice is admitted at the end of the machine opposite to that into which the cossettes are introduced and travels in a sinuous course successively through the cells from one end of the machine to the other by gravity	4. The juice is admitted at one end of the machine opposite to that into which the cossettes are introduced and travels in a sinuous course successively through the cells from one end of the machine to the other under the influence of pumps

Note: The evidence is clear that whether the juice travels through the machine by gravity or under the influence of pumps is completely immaterial to the diffusion process and one is the full equivalent of the other. This is evident from the Silver patent itself where it states (page 4):

> "the liquid may be subject to pumping or other pressure influences for its positive movement through the treatment."

Also, Mr. Shafor testified (Tr. 205) that there is no difference in the use of pumps or gravity as far as the diffusion process is concerned. This was corroborated by Mr. Silver himself, who testified that if the proper pump selection was made, it would operate with the same effect as gravity (Tr. 95). In fact Mr. Silver testified[4] that his

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[4]Tr. 95:
"Q. Would you say that your process included either pumping or by gravity flow—that is the process in your patent, Exhibit A—or not? A. Yes."

process included either moving the juice by pumps or by gravity.

5. the direction of travel of the juice and cossettes is concurrent and generally horizontal throughout the major portion of each cell	5. the direction of travel of the juice and cossettes is concurrent and generally horizontal throughout the major portion of each cell
6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a rotating mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity	6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a rotating mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity

Note: The rotating means in Steffen Fig. 1 (Tab 13, OL. 8-A) is the conventional form of scroll conveyor "a" (in the drawings), the lower end of which projects downwardly into the cell and the upper end of which overlies the end of the succeeding cell.

Draining in Steffen will be accomplished as described by Mr. Shafor (Tr. 197-198), during the upward travel of the cossettes during transfer. Mr. Shafor testified (Tr. 198) that there was a perforated wall at the bottom of the transfer conveyor "a".

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed	7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed

Note: Mr. Shafor so testified (Tr. 197-198) and no evidence was offered to the contrary.

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a ribbon type of screw conveyor.	8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a helical conveyor not shown whether it is a solid or interrupted or ribbon type.

Note: Assuming that the drawings of Steffen illustrate a solid type of conveyor, this is the same in effect as the ribbon type except that it would provide less agitation. This was testified to by Mr. Shafor at Tr. 222 without contradiction. The evidence is that in one of the Morton cells there is a solid type of conveyor which has operated satisfactorily (Tr. 176). Mr. Silver himself testified that when he made his first horizontal machine, he used a solid type scroll conveyor and found that it did not agitate sufficiently, so he replaced it with an open scroll type. This makes it clear that one skilled in the art, when finding one form of agitator provides insufficient agitation, can readily substitute other well known forms of agitators from his knowledge of the art and without the exercise of any invention.

9. each cell has a rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cossettes to the succeeding cell into which they drop by gravity	9. each cell has a rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cossettes to the succeeding cell into which they drop by gravity

Note: In the Morton machine this element is a rotating fork, while in Steffen it is a rotating screw conveyor.

Both, however, perform the same function to effect exactly the same result (Tr. 197-198). It will be noticed that the transfer conveyor of Steffen, Fig. 1 extends down into the cell so as to lift the cossettes and elevate them out of the cell to a point above the liquid level, so that they can drain, and then deposit them at a point from which they will discharge by gravity into the end of the next succeeding cell (Tr. 197).

10. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion	10. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion
11. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity	11. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by pumps, although the flow through each individual cell is by gravity
12. the introduction of the fluid in each cell is at substantially the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell	12. the introduction of the fluid in each cell is slightly above the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell
13. the cossettes and the juice are separately discharged from the machine	13. the cossettes and the juice are separately discharged from the machine
14. there is no recirculation for heating purposes of the juice in each cell	14. there is a partial recirculation of the juice in each cell for the purpose of temperature control

Note: As Mr. Shafor testified (Tr. 199), the recirculation would not affect the diffusion process, but would have the additional advantage of temperature control, which is

important in diffusion. He did state, however, that it might have some effect on the time of diffusion. In other words, if the juice is recirculated, it would take a longer time for diffusion. This, however, is a difference merely in degree and not in substance and if the recirculation feature was not wanted, certainly any mechanic skilled in the art could eliminate it from the Steffen Fig. 1 disclosure by employing simple mechanical skill, particularly in view of the other prior patents; for example, Gazagne (Tab 15, OL. 8-C) which shows the Morton gravity flow.

From the foregoing it is clear that the Morton machine and its operation and the Steffen machine and its operation are identical in all important aspects and differ only in three minor details. These three minor differences (not including details of mechanical construction) are:

(1) That the juice is transferred from cell to cell in the Steffen patent by pumps rather than by gravity as in the Morton machine. However, the use of pumps and the use of gravity are full equivalents as set forth in the Silver patent itself, and as testified to by Mr. Shafor and admitted by Mr. Silver (Tr. 95).

(2) The second difference is the difference in mechanical construction of the transfer mechanism, although both produce the same result in substantially the same way by equivalent mechanism.

(3) The third difference is that in Steffen there is a partial recirculation of juice in each cell. This, however, merely reduces the efficiency of the cell at most, according to Mr. Silver's own testimony, and does not substantially vary the process. Mr. Silver's testimony on this point is at Tr. 286 as follows:

"Q. And what would be the effect of such recirculation in the cell upon the efficiency and operative conditions of the cell and battery? A. They will reduce the efficiency of the cell."

Mr. Shafor on this same point testified at Tr. 199 as follows:

"Q. So that you get a re-circulation of part of the juice? A. It passes with the cossettes from left to right through the cell and again through the draining screen at the elevating mechanism and back into the reservoir. It completes a circuit as indicated by the red arrows and the red line. Its sole objective is to heat the juice and control its temperature, the temperature of the environment which the cossettes are maintained at in cell A-4.

Q. What effect, if any, would that have on the diffusion process as such? A. The effect of T in the formula I have given here—increased temperature means increased diffusion. Controlled temperature means controlled diffusion."

As to the clearness of disclosure of the Steffen patent, Mr. Shafor testified at Tr. 200[5] that Steffen clearly teaches him an operative medium by which continuous diffusion can be practiced and from which patent he would have no difficulty in producing an apparatus to practice the process disclosed. No contrary testimony was offered.

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[5] "Q. With respect to the Steffen patent, Exhibit 8-a, does that disclose to you, or does that teach you an operative medium by which continuous diffusion can be carried out? A. It does.

Q. Would there be any difficulty, to you, in designing a specific type of apparatus to practice the process disclosed in Steffen from that disclosure? A. No, no fundamental difficulty."

The disclosure of the Gazagne (Tab 15, OL. 8-C) patent as compared with the accused Morton machine.

This prior patent, according to the evidence, also describes and diagrammatically illustrates a diffusion battery having almost the precise operational steps of the accused Morton machine, with the exception that the juice is transferred from one cell to another by means of pumps and the cossettes discharge over a screen for draining and into the succeeding cell by gravity. However, it is pointed out that the draining action and discharge of the cossettes is included in the Silver patents in almost the precise form shown by Gazagne; for example, the type of apparatus disclosed in the Silver patent, Tab 11, S.A. Fig. 3. Mr. Silver so testified at Tr. 90-91, and Tr. 294,[6] and in addition testified that this type of draining would be effective.

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[6]Tr. 90-91:

"I show you what purports to be an enlarged photostatic drawing of the second sheet of the drawing of your first patent in suit, on which appears some red and green arrows which you may disregard, and the drawing is labeled Plaintiff's Exhibit 1 for identification, and I call your attention to Figure 3 as an apparatus for practicing the process of your patent, and that apparatus, as shown, will practice the process which you allege you have invented in your patent, will it not? A. It has never been tried, but it was indicated as one——

Mr. Mellin. Would you read the question to the witness, I don't think he quite understands.

(Question read.)

Q. Would you answer whether it will practice your process or whether it would not practice your process, Mr. Silver? A. It will.

Q. Now, in that process, you, as I understand it, and correct me if I am wrong, the beets go from the tank which is indicated at '6a' together with the juice into a pump '18', and thence up a conduit '6p', and then deposited by gravity upon a screen '20', and the juice passing through the screen into a collector, and the beets deposited by gravity into the second tank '6a'. That is correct, isn't it? A. Yes.

Q. And will that function correctly practice the process of the patent? A. From my present knowledge of the diffusion, I would say that this would be, it would be questionable now.

The Accused Morton Machine.

The accused Morton machine is constructed and operates as follows:

1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end,

2. the direction of the travel of the juice through the entire machine is generally countercurrent to the direction of travel of the cossettes,

3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,

4. the juice is admitted at the end of the machine opposite to that into which the cos-

The Gazagne Disclosure.

(See Tr. commencing page 202)

The apparatus shown in the Gazagne patent is constructed and operates as follows:

1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to the other end,

2. the direction of the travel of the juice through the entire machine is generally countercurrent to the direction of travel of the cossettes,

3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,

4. the juice is admitted at one end of the machine opposite to that into which the cos-

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Q. You mean it would be questionable that it would be operative, that is, the apparatus shown in Figure 3? A. That we would get what we have now achieved in other apparatus.

Q. But it would practice the process, let's say, but not to the same degree of efficiency, is that what you mean to say? A. Yes.

Q. But the screening method of screening the material would function to drain the cossettes, would it not? A. It would.

Q. And there would be no harmful or injurious effect on the cossettes if they deposit by gravity into the second tank '6b', would there? A. I think not."

Tr. 294:

"Q. So that whether you recognize it as an advantage, the patent tells you you can use a screen there so that the juice will screen itself and the cossettes will drop off into the next tank? A. Yes."

settes are introduced and travels in a sinuous course successively through the cells from one end of the machine to the other by gravity,

5. the direction of travel of the juice and cossettes is concurrent and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a rotating mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity,

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to

settes are introduced and travels in a sinuous course successively through the cells from one end of the machine to the other under the influence of pumps,

5. the direction of travel of the juice and cossettes is concurrent and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through each cell the cossettes are deposited into the succeeding cell by gravity,

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell by passing the cossettes over a perforated screen which discharges the juice in one direction for delivery to its succeeding cell and discharging the cossettes by gravity into the succeeding cell in precisely the same fashion as such operational steps are performed in the type of Silver apparatus shown in the Silver patent, Tab 11, Silver Exhibit A, Fig. 3,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending logitudinally of the cell to move the cossettes horizontally therethrough and to

rotatively agitate them in the juice. This means is a ribbon type of screw conveyor,	rotatively agitate them in the juice. This means is an interrupted screw or paddle type scroll conveyor,
9. each cell has a rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cossettes to the succeeding cell into which they drop by gravity,	9. each cell does not have a rotating member for engaging the cossettes in the cell to convey them above the fluid and to transfer the cossettes to the succeeding cell, but the cossettes are transferred to the succeeding cell by passing over an inclined screen precisely as in Fig. 3 of the Silver patent, Tab 11, Silver Exhibit A, to deposit by gravity into the succeeding cell and to be drained in exactly the same fashion (see Silver testimony, Tr. 91),
10. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion,	10. the cells are arranged at successively lower levels and the travel of the cossettes is from the cell of the highest level through the succeeding cells in general down-hill fashion,
11. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity,	11. the juice is introduced in the cell of lowest elevation and travels successively in an up-hill direction through the cells by pumps, although the flow through each individual cell is by gravity,
12. the introduction of the fluid in each cell is at substantially the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,	12. the introduction of the fluid in each cell is slightly above the fluid level in the cell and the outlet or discharge from the cell is just below the fluid level in the cell,
13. the cossettes and the juice are separately discharged from the machine.	13. the cossettes and the juice are separately discharged from the machine.

Mr. Shafor testified (Tr. 205) that the Gazagne patent teaches him a process of diffusion which may be practiced by the apparatus shown in the Gazagne patent and which would be operative. His testimony is as follows:

> "Q. Does this Gazagne patent, Exhibit 8-C, disclose to you, or does it teach you a process of diffusion which may be practiced by the apparatus shown in that patent? A. Yes.
>
> Q. To one skilled in the art such as yourself, or to you, could you readily construct a continuous diffusion apparatus operating as Gazagne shows it to be operated? A. Yes.
>
> Q. Would it be operative or not? A. It would."

From Mr. Shafor's testimony, commencing at Tr. 203, it is clear that the only difference betwen the Gazagne disclosure and the Morton battery is (1) in the pumping of the juice, (2) a different type of draining mechanism, and (3) a slightly different type of conveyor used. This testimony is uncontradicted.

We submit that if the Silver claims are construed to include the accused Morton machine and its operation, then they must be construed to include the Gazagne disclosure and its operation and are anticipated thereby, and if they are construed so as to avoid the Gazagne disclosure, then they cannot possibly be found infringed by the accused Morton battery in that the Morton battery closely follows the teachings of the Gazagne patent, except for minor details of mechanical construction.

The disclosure of the Neufeldt (Tab 16, OL. 8-E) patent as compared with the accused Morton machine.

This prior art patent disclosed the same cycle of operation for diffusing sugar beets as Morton, except that it has in addition to Morton a medium for compressing the cossettes during transfer thereof from one cell to another. In that the prior art clearly teaches that pressure of the cossettes is not essential (witness the Robert process, Steffen prior art patent (Tab 13, OL. 8-A), Gazagne prior art patent (Tab 15, OL. 8-C), and the Dobler prior art patent (Tab 17, OL. 8-E)), elimination of the pressure feature of Neufeldt and its function would not amount to a patentable difference. The Patent Office so held in passing on the Morton application (Morton Exhibit 2, page 37).

We emphasize that nowhere in the claims of either of the Silver patents are they limited so as *to exclude the use of pressure by any words of limitation.*

Mr. Shafor testified, without contradiction (see Tr. 208), that the Neufeldt disclosure includes a plurality of separate horizontally disposed cells through each of which the cossettes and juice travel (concurrently) generally horizontally from one end of each cell to a point short of the other end. The direction of the travel of the juice through the entire battery is generally countercurrent to the direction of travel of the cossettes, except that in each cell the cossettes and juice travel concurrently. The cossettes are introduced into the end of the battery opposite to the end in which the juice is admitted. After traveling generally horizontally through a major portion of each cell, the cossettes are elevated out of the juice

by a rotating mechanism and then deposited into the adjacent end of the succeeding cell by gravity. Draining action of the cossettes is effected (as well as compression thereof) during the transfer of the cossettes from one cell to the succeeding cell, the juice draining back into the cell from which the cossettes are removed. Each cell has a rotating, propelling and agitating means extending horizontally of the cell to move the cossettes horizontally from the inlet end thereof to the discharge end, and uses for this purpose a ribbon type of screw conveyor. The cells are arranged at successively higher levels and the travel of the cossettes is from the cell of lowest level through the succeeding cells in general uphill fashion, while the juice is introduced in the cell of highest elevation and travels successively in a downhill direction through the cells of lowest elevation by gravity. The cossettes and juice are separately discharged from the machine, of course.

In other words, from this the Court can gather that the only difference between the operation of the Neufeldt battery and the Morton battery is that Neufeldt, in addition to disclosing the use of all of the steps employed by Morton, includes the additional feature of compressing the cossettes during transfer.

If the helical conveyor in the cell of Morton and its fork elevator constitutes the downward and upward courses of cossette travel, then these upward and downward courses of cossette travel are found to the same extent and by the same yardstick in Neufeldt, because he likewise uses a ribbon type of conveyor and also uses a mechanism

for elevating the cossettes out of the end of the tank, permitting them to drain back into the tank.

Thus, if the claims of the Silver patents can be construed as including the Morton battery, then they cannot escape being construed as including the Neufeldt machine and are invalid. There is nothing in any one of the Silver claims which expressly excludes from their scope a machine which uses the additional feature of compressing the cossettes during transfer.

In Appendix II of this brief we have made a detailed comparison between the Neufeldt disclosure and the Morton machine.

The disclosure of the Krauss (Tab 18, OL. 8-F) patent (Fig. 2 thereof) as compared with the accused Morton machine.

This prior patent (Fig. 2 and its specification) discloses a continuous diffusion process and apparatus which, in all of its essential elements, is the same as the accused Morton battery and its operation (See Tr. 220). The only substantial difference between the disclosure of Krauss and the Morton machine is that Krauss, instead of using a rotating fork for draining the cossettes and transferring them from one cell to another, utilizes a conventional form of centrifuge into which both the cossettes and juice are deposited at the discharge end of each cell (Tr. 220). This effects drainage of the cossettes and a separation of cossettes and juice, and the cossettes are then discharged into a conveyor by which they are elevated and deposited by gravity into the end of the succeeding cell (Tr. 222). The juice meanwhile is directed to its succeeding cell in the general countercurrent concurrent scheme.

We point out to the trial Court that although a different type of transfer mechanism is used, the Silver claims are not limited to any particular type of transfer mechanism, merely defining the transfer mechanism by process steps of withdrawing the juice from the treatment stage and draining the cossettes. Therefore, the mechanical structure in Krauss, Fig. 2, accomplishing the same result as is accomplished by Morton's transfer mechanism, to-wit, drainage of the cossettes and separation thereof from the juice, is the complete equivalent of the Morton transfer mechanism. Consequently, if the vague and ambiguous claims of the Silver patents include the Morton type of transfer mechanism, they must also be deemed to include the Krauss type of transfer mechanism.

We also point out that in the drawing of Krauss, Fig. 2, the conveyor and agitator are illustrated as being both a solid scroll conveyor and an interrupted or paddle type of scroll conveyor. This, in accordance with the testimony, is the full equivalent of the ribbon scroll type of conveyor as used by Morton, as is admitted by Silver (Tr. 295).

A detailed comparison between the principal elements of Morton and Krauss is made in Appendix III of this brief.

The disclosure of the Dobler (Tab 17, OL. 8-E) patent as compared with the accused Morton machine.

This prior patent, Tab 17, OL. 8-E, according to the evidence commencing at Tr. 225, illustrates a diffusion battery for diffusing sugar in a continuous diffusing process, which battery, in construction, is almost a pre-

cise duplicate of the Morton battery, the only difference being that in Dobler the flow of juice is countercurrent in each cell rather than concurrent as in Morton. However, the countercurrent concurrent flow scheme being so old, it certainly would not be a patentable invention to substitute a countercurrent concurrent flow in the Dobler machine for its strictly countercurrent flow. As Mr. Shafor demonstrated, without contradiction (Tr. 214), only a simple mechanical change is required.

To show the very substantial similarity between the Dobler disclosure and the Morton machine, we make a detailed comparison therebetween in Appendix IV of this brief.

From the foregoing we believe it is evident that the Morton battery closely follows the teachings of the prior art and cannot, therefore, under the law, infringe the patents in suit.

EVEN IF VALID, THE APPARATUS CLAIMS IN SUIT NUMBERS 2, 3 AND 4 OF THE SECOND SILVER PATENT ARE NOT INFRINGED BY THE ACCUSED MORTON BATTERY BECAUSE THE MORTON BATTERY DOES NOT COME WITHIN THE SCOPE OF THOSE CLAIMS.

While we vigorously contend elsewhere in the accompanying brief that claims 2, 3 and 4 of the second Silver patent are invalid as being met by the prior art and for double patenting, we also contend that even if they are construed to be valid, they are not infringed by the accused Morton battery because the accused Morton battery, while accomplishing the same end result, does so by a mechanism which follows the teachings of the prior

art and which is different than that defined in these three claims. For example, each of these three claims of the second Silver patent includes the following definition or limitation of the construction of the Silver machine. We are quoting below from claim 2 of the patent as typical, and the bracketed inserts are our own:

> "* * * conveyor means [the endless chain conveyor] in each said cell for imparting said progressive movement to divided materials * * *, said conveyor means [the endless chain] including apertured members [the perforated flat plates bolted to the conveyor chain for conveying the cossettes through the cells], and a portion of said means [meaning the conveyor means with the perforated plates fixed thereto] extending above the level of liquid adjacent the discharge end of each cell [the upper ends of the conveyor chain above each cell] to elevate the divided material out of the liquid * * *."

This construction cannot possibly be found in the Morton battery. The Morton screw conveyor does not include "apertured members" as called for by the claims, nor does the screw conveyor extend above the liquid level to elevate the divided material out of the liquid. The Morton screw conveyor, as in the prior art, merely propels the liquid horizontally along the cell to one end thereof, at which point it is picked up by a rotating fork and elevated out of the cell and dumped into the succeeding cell.

Silver horizontal scroll diffuser.

Silver commenced to design a horizontal scroll type of diffuser in the first part of 1948. Silver's direct testimony on this point (Tr. 52) is as follows:

"Q. When did you conceive of the idea of utilizing the scroll conveyor in a diffuser? A. Oh, that had been in my thinking as a possibility all along. I had not worked out a specific design.

Q. When did you work out a specific design for the scroll type of conveyor? A. In the latter part of 1947 my ideas were consolidated and we commenced design the first part of 1948."

In this connection it is to be observed that Silver in his patent No. 2,390,131 at page 2, left-hand column beginning with line 64, merely suggests that his process can be performed in horizontally disposed cells but gives no indication in his specification as to how this might be done. Judging from the above testimony, a specific embodiment of this idea was not worked out by him until the latter part of 1947 or 1948.

Oliver-Morton horizontal scroll type diffuser.

The record shows that in contrast to this, Morton filed his first application for a horizontal scroll type diffuser on January 8, 1947. The file wrapper and contents of Morton's application, Serial No. 720,905 (Exhibit 2 to Morton Deposition, Silver Exhibit F-2, Tr. 347) shows that the Oath to this application was executed on December 9, 1946. The battery disclosed in this application is, except for the transfer mechanism, substantially identical with the Oliver-Morton diffuser.

Actually, the Oliver-Morton diffuser is made under license under Morton application, Serial No. 34,540 (Morton file wrapper and contents, Exhibit 2 to Morton deposition). This application was filed June 22, 1948 and

the Oath thereof was executed May 11, 1948 and covers the specific transfer mechanism used in the alleged infringing structure.

As testified by Mr. McGuire under direct examination (Tr. 163), Morton's license agreement with Oliver was made on October 23, 1947 and the original transfer mechanism for the Morton unit was built in 1947. A complete battery was built, installed and successfully operated during the 1948 Sugar Beet Campaign at Woodland, California (Tr. 164).

THE COMMERCIAL SUCCESS OF THE MACHINE SHOWN IN THE PATENTS IS UNIMPRESSIVE IN THIS RECORD AND EVEN IF THE CONTRARY WERE TRUE COMMERCIAL SUCCESS CANNOT BE SUBSTITUTED FOR INVENTION.

The District Court was evidently extremely impressed by the so-called commercial success of the Silver batteries, and we believe was misled thereby into attributing this to patentable invention. We do not interpret the record to show that the commercial success was impressive for the following reasons:

Silver in his testimony (Tr. 48) testified that he built his first machine in 1942, and between the years of 1942 and 1948 he manufactured and sold fourteen (Tr. 51) of the type of machines shown in the patents in suit. Then Mr. Silver, to overcome difficulties in the operation of the patented type of machine, switched to a horizontal type (Tr. 52), also called the scroll or Chinook type. As a matter of fact, difficulties of the patented type must have been quite fundamental because at Tr. 53 Mr. Silver

testified that the Utah-Idaho Sugar Company, which had had on order a chain (patented) type of diffuser, requested that Silver construct the scroll type instead, which he did. Also, Mr. Silver built two machines for the Spreckels Sugar Company, which were identical to the Morton battery, at the specific instructions of the Spreckels Sugar Company, instead of two chain type which they had on order (Tr. 74 and 77). Those Morton machines built by Silver for Spreckels Sugar Company *were precisely copied from the accused Morton battery* (Silver deposition, Tr. 273) previously built by Oliver and installed for tests with the Spreckels Sugar Company. The reason for this is obvious because the Morton type was much less expensive to build, by almost 33⅓ per cent, than the type shown in Silver's patents, and it also had a greater flexibility.

Silver's testimony on this point under cross-examination was as follows:

> "Q. Did you tell Mr. Gray or not at that time that the chain type presented so many mechanical difficulties and that the upkeep for repairs was so high that you were not going to build another chain type machine? A. I made a *statement* to the effect that the new scroll type machine which I had built for Chinook, when it was perfected, was such that I could see no reason for building any more chain type machines. (Tr. 100).
>
> Q. Why is it then that you haven't sold one for two years? A. Because, I have a machine which I consider an improvement?
>
> Q. And you sold one of those in the two years? A. I sold two of them—sold three, two now installed, and one sold, one of them ordered, I should say.

Q. Would you consider that horizontal machine a far superior machine to the chain type? A. I consider it a superior machine." (Tr. 101).

Mr. Silver further testified under cross-examination concerning the advantage of the horizontal type or scroll type diffuser as follows:

"Q. And isn't it a fact that the horizontal type or scroll type is considerably less expensive to build than the chain type? A. Somewhat less.

Q. Say about thirty per cent less? A. I would say no, not that much less, in my Chinook machine.

Q. What about the Morton type that you built? A. It is somewhat less expensive than either of the other two types.

Q. And would you say the Morton type was approximately thirty to thirty-three and one-third per cent less expensive to build than the chain type, equal number of cells? A. Approximately.

Q. Now, the Morton type also has a flexibility that the chain type doesn't have, doesn't it? A. That is correct.

Q. And they can be rearranged in many ways that you can't arrange the chain type because that is a fixed integral structure? A. The specific chain type which was previously built, that is *true.*" (Tr. 101).

Therefore, the fourteen machines built during those years and the stoppage of building them two years prior to this trial does not impress us as a weighty showing of commercial success, particularly when there is considered the great number of sugar refineries in the United States. The number of such refineries can be gauged somewhat from Mr. Shafor's testimony that during the

years 1917 and 1929, when he worked for the Great Western Sugar Company, that company alone had twenty-two plants (Tr. 182), and that he personally visited at least seventy or eighty refineries. Therefore, it is evident that the fourteen diffusers of the patented type during the last ten years has replaced but a small percentage of prior diffusers in sugar refineries in the United States. The success of this patented type of machine is certainly diminished by the fact that the Spreckels Sugar Company and the Utah-Idaho Sugar Company, although having on order the patented type of machines, requested that they not be built and that a horizontal type be substituted. In the case of the Spreckels Sugar Company, they insisted that a copy of the horizontal accused Morton battery be substituted, and pursuant thereto, Silver copied the Morton battery and duplicated it in two machines for that company (Tr. 273).

QUESTIONS PRESENTED.

In light of above facts, the following questions are presented:

(1) Whether the claims of each of the Silver patents are valid and infringed.

(2) Whether a claim abandoned and cancelled may be read back into a patent grant.

(3) Whether unambiguous process and machine claims may be enlarged by incorporating therein, upon the doctrine of equivalents, processes and machines covered by prior art patents and stated by the patentee during the

prosecution of his application to be ineffective and inoperative.

(4) Whether a process which is the inherent function of the apparatus in which it is carried out can be the subject of a valid patent.

(5) Whether the monopoly of a patent may be measured by reference to the specification of the patent, the testimony of the inventor and alleged commercial success rather than by reference to the claims of the patent.

(6) Whether the process and apparatus claims of the Silver patents are anticipated by the prior art if construed with sufficient breadth to cover petitioner's process and apparatus.

(7) Whether prior art can be disregarded for the reason that it has never been put into commercial practice.

(8) Whether the monopoly accorded to an inventor by one patent can be extended validly by the subsequent issuance to the same inventor of a second patent containing claims covering substantially the same subject matter covered in the claims of the first patent.

(9) Whether the claims of a patent can be held to cover apparatus not disclosed in said patent as under the statute and concededly not designed or developed by him until a much later date.

REASONS RELIED ON FOR ALLOWANCE OF WRIT.

The reasons relied on for the issuance of the writ prayed for are:

1. The possibility of conflict between Circuits is remote despite the doubtful validity of the patents in suit for:

A continuous diffusion battery of the type under discussion costs about $250,000.00 (Tr. 72), and its shutdown during a sugar beet campaign by reason of an injunction would represent an enormous loss. These two factors would constitute a contingent liability which no one could well afford to assume. Silver has no competition in the field of continuous sugar beet diffusion and accordingly the possibility of any further litigation of these patents is remote. This alone warrants review by this Court for the reasons pointed out by *Mackay Radio & Telegraph Co. v. Radio Corporation of America* (1939), 306 U.S. 86, 89; *Muncie Gear Works, Inc. v. Outboard Marine & Manufacturing Co.* (1942), 315 U.S. 759, 765-6; *Exhibit Supply Co. v. Ace Patents Corporation* (1942), 315 U.S. 126, 128; *Schriber-Schroth Co. v. Cleveland Trust Co.* (1938), 305 U.S. 47, 50.

2. Important questions of patent law have been decided in a manner in conflict of the decisions of this Court. Thus:

(a) In sustaining the process and apparatus claims of the Silver patents, the Court below regranted to Silver the claims originally submitted by him but which were subsequently cancelled and abandoned. This is not in accord with this Court's decision in *Schriber-Schroth Co. v. Cleveland Trust Co.* (1940), 311 U.S. 211, 218, 220-2; *Altoona Publix Theatres Inc. v. American Tri-Ergon*

Corp. (1935), 294 U.S. 477, 487, 492; *Sutter v. Robinson* (1886), 119 U.S. 530, 541.

(b) To impart novelty to Silver's process and apparatus claims, the Court below reached to the specifications. As this Court's cases since *White v. Dunbar* (1886), 119 U.S. 47, 51-2, and *McClain v. Ortmayer* (1891), 141 U.S. 419, 423-4 show, the claims measure the grant and, while they may be limited, they may not be enlarged by the specifications.

(c) The Court below disregarded the rule that whatever infringes, if later, will anticipate if earlier. *Knapp v. Morss* (1893), 150 U.S. 221, 228. If Silver's process and apparatus claims can be stretched to cover the Oliver-Morton diffuser and process, they are anticipated by Krauss, Turrentine and other prior art of record.

(d) The Court below in effect granted a patent on a result. *Holland Furniture Company v. Perkins Glue Company* (1928), 277 U.S. 245, 256-8; *General Electric Co. v. Wabash Appliance Corp.* (1938), 304 U.S. 364, 368, 371, 374. The process and product claims as interpreted by the Court below would bar anyone from using in the old Krauss and Turrentine diffuser and process any means whether heretofore known or not which performs the function of transferring the cossettes from one cell to another and in causing them to travel through a cell in admixture with juice. This would seem to be in clear defiance of *Halliburton Oil Well Cementing Co. v. Walker* (1946), 329 U.S. 1, 9-10, 12.

(e) The Court below, in determining that Silver's diffusion battery constituted a new and patentable com-

bination, entirely disregarded the law of exhausted combinations as enunciated by the Supreme Court in *Bassick Mfg. Co. v. R. M. Hollingshead Co.,* 56 S. Ct. 787, and in effect establishes the rule that if an assemblage of old elements produces a better result, such assemblage is patentable regardless of whether it constitutes an exhausted combination.

(f) The Court below, in according Silver's claims an unwarranted range of equivalents and so stretching them as to cover the Oliver-Morton diffuser and process, has left members of the public without a yardstick to determine what it can and cannot do and has disregarded the rule that it is the claims of a patent which measures the monopoly accorded by the grant. *McClain v. Ortmayer* above cited. Members of the public, being without a yardstick to determine the metes and bounds of Silver's monopoly, have little or no inclination to attempt to develop improvements to continuous countercurrent concurrent diffusing apparatus and processes and thus the very purpose of the constitutional enabling act forming the basis of our patent laws will be defeated in this very important industry.

(g) The Court below, in according to Silver's claims a range of equivalents, disregarded the statutory requirement that the specification of a patent shall contain a written description of the invention, and the manner and process of making and using it, in such full, clear, concise, and exact terms, as to enable any person skilled in the art to which it pertains, or which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying

out his invention. 35 U.S.C. 112. Here Silver, by his own admission, did not design and develop a horizontal scroll type of diffuser until the latter part of 1947, years after the filing dates of his applications.

CONCLUSION.

Under the judgment in review, domination of large segments of the useful art important to the sugar industry, much of which, by law is public property, has been handed over to respondent. Before any such conveyance is sealed, this Court should examine the justice of the grant.

Consequently this writ should issue.

Dated, San Francisco, California,
October 12, 1953.

Respectfully submitted,
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(Appendices Follow.)

Appendix I

THE SILVER PROCESS CLAIMS DO NOT PATENTABLY DISTINGUISH FROM THE DISCLOSURE OF THE KRAUSS PATENT (FIG. 1), TAB 18, OL. 8-F, AND THE DISCLOSURE OF THE RAK PATENT, TAB 19, OL. 8-G.

We here compared typical claims of the first and second Silver patents with the disclosures in Krauss (Fig. 1), Tab 18, OL. 8-F, and Rak, Tab 19, OL. 8-G.

COMPARISON WITH KRAUSS TAB 18, OL. 8-F.

Claim 7 of Silver patent Tab 12, S.B.	**Krauss (Tab 18, OL. 8-F) Fig. 1 disclosure.**
1. A diffusion process, which comprises the movement of divided material through a confined treatment zone having a succession of treatment stages,	1. A diffusion process, which comprises the movement of divided material through a confined treatment zone having a succession of treatment stages (Tr. 216),
2. feeding divided material into one end of said confined zone,	2. feeding divided material into one end of said confined zone (Tr. 216),
3. flowing liquid by gravity in a progressive movement through the succession of treatment stages along a course generally countercurrent to the divided material travel,	3. flowing liquid by means of pumps in a progressive movement through the succession of treatment stages along a course generally countercurrent to the divided material travel (Tr. 216),
4. introducing the liquid into the respective treatment stages near one end of each stage and in the path of divided material moving into said stage,	4. introducing the liquid into the respective treatment stages near one end of each stage and in the path of divided material moving into said stage (Tr. 218),

Note: It will be noticed that in Krauss (Fig. 1) the liquid is discharged into the top of each cell and the cossettes drop from a higher point into the cell.

5. directing the divided material so intermixed with liquid through substantially the entire treatment stage in an action in which the liquid moves concurrently with the travel of divided material,

6. elevating the divided material out of the liquid at the opposite end of said stage in an action in which the elevating movement is utilized to transfer the divided material from said stage to the next treatment stage while draining liquid back through the divided material during such elevation and before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage,

5. directing the divided material so intermixed with liquid through substantially the entire treatment stage in an action in which the liquid moves concurrently with the travel of divided material (Tr. 218),

6. elevating the divided material out of the liquid at the opposite end of said stage in an action in which the elevating movement is utilized to transfer the divided material from said stage to the next treatment stage while draining liquid back through the divided material during such elevation and before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage (Tr. 217),

Note: As Mr. Shafor explained at Tr. 217, the transfer mechanism of the Krauss Fig. 1 disclosure picks up the cossettes on the outside of a traveling screen and elevates them out of the liquid, so as to transfer the cossettes from one stage to the next treatment stage. During this transfer to the next treatment stage, the cossettes are, of course, drained through the screen filter medium. At the same time the rising liquid level at the discharge end of the cell drains through the screen filter medium and discharges with the liquid which is drained from the cossettes for transfer to the succeeding cell. This draining is effected, of course, before the cossettes are again brought in contact with the liquid at the point of intermixture in the next treatment stage.

Notice that the element 6 (above) in the claim does not exclude the use of a filter such as shown by Krauss, nor does it exclude the use of differential pressure in effecting drain.

7. then subjecting said liquid to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course,	7. the liquid is subjected to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course.

Note: It will be noticed that in Fig. 1 of Krauss, as explained by Mr. Shafor at Tr. 217-218, the lower part of the filters extend below the liquid level so that the liquid may pass up through the filter to discharge. It is, of course, screened by the screen filter medium which maintains the cossettes on the exterior thereof, but permits the liquid to pass therethrough.

8. and discharging the liquid and divided material separately from the treatment zone.	8. and discharging the liquid and divided material separately from the treatment zone. (Tr. 218.)

Note: From the foregoing it is obvious that this Silver claim reads directly on the Krauss Fig. 1 disclosure, except that the liquid does not flow by gravity between the cells.

Thus, the only distinction between the claim and the Krauss (Tab 18, OL. 8-F) Fig. 1 disclosure is the flowing by gravity from cell to cell. In that gravity flow and pumping are equivalents, the claim does not patentably distinguish from the Krauss Fig. 1 disclosure, and in that the claim does not exclude the use of a filter such as

shown in Krauss (Tab 18, OL. 8-F) Fig. 1, it would include such a transfer construction. Consequently, the claim is fully met by the Krauss (Tab 18, OL. 8-F) disclosure and it does not patentably distinguish therefrom and is invalid.

Claim 2 of Silver patent Tab 12, S.B.	Krauss (Tab 18, OL. 8-F) Fig. 1 disclosure.
1. Diffusion apparatus, comprising a series of treatment cells interconnected for the progressive movement of divided material therethrough,	1. Diffusion apparatus, comprising a series of treatment cells interconnected for the progressive movement of divided material therethrough (Tr. 216),
2. a feed inlet for divided material at one end of said apparatus,	2. a feed inlet for divided material at one end of said apparatus (Tr. 216),
3. conveyor means in each said cell for imparting said progressive movement to divided material,	3. conveyor means in each said cell for imparting said progressive movement to divided material (Tr. 216),

Note: Krauss (Tab 18, OL. 8-F) shows a scroll type of conveyor, while Silver shows a continuous chain type. However, the claim makes no distinction between the two. It is submitted that both are "conveyor means".

4. a plurality of conduit members arranged with each member extending between two cells of the series to impart a gravity flow of liquid in a direction generally countercurrent to the travel of divided material through the apparatus, the outlet of each conduit member being positioned adjacent the divided material inlet end of each cell and the intake of each said conduit member being ad-	4. conduit members extending between two cells of the series with an intervening pump to impart a flow of liquid in a direction generally countercurrent to the travel of divided material, the outlet of each conduit member being positioned adjacent the divided material inlet end of each cell and the intake of each of such conduit being adjacent the divided material discharge end of a preceding

jacent the divided material discharge end of a preceding cell, whereby the liquid is caused to flow concurrently with the divided material throughout substantially the entire length of each cell,

cell, whereby the liquid is caused to flow concurrently with the divided material throughout substantially the entire length of each cell (Tr. 216-218),

Note: The conduit members in the Krauss (Tab 18, OL. 8-F) disclosure are the fluid conductors between the interior of the filter in one cell and thence through a pump into the upper end of the succeeding cell, except that a pump is included by Krauss and not a gravity flow. The only distinction between the two is the provision of pumping in lieu of gravity flow. This difference is an immaterial one, not producing a different result, and is not a patentable distinction.

5. said conveyor means including apertured members and a portion of said means extending above the level of liquid adjacent the discharge end of each cell to elevate divided material out of the liquid and drain the material before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage,

5. said conveyor means including an apertured member with a portion thereof extending above the level of liquid adjacent to the discharge end of each cell to elevate divided material out of the liquid and drain the material before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage (Tr. 217-218),

Note: As testified to by Mr. Shafor (Tr. 217-218), the filter medium of the filter, which is a continuous belt, is foraminous or apertured as is the drum, so that it acts to elevate the cossettes out of the liquid in the cell, drain them and deliver them to the point of intermixture in the next treatment stage by gravity. Obviously, the end-

less belt type of filter is a conveyor means and it does act to convey the cossettes from one cell to the succeeding cell and drain them during that transfer.

6. a screening member disposed in the liquid adjacent the portion of said conveyor means which elevates divided material above the liquid level, said screening member being adapted to screen the liquid before it passes into the conduit intake,	6. a screening member composed of the filter with its screen or foraminous type of endless belt, which filter has a portion thereof disposed in the liquid to elevate the divided material above the liquid level, and the screen effect of the filter is to screen the liquid before it passes into the conduit intake, which is the filter drum having a discharge pipe connected with it as would be obvious to the Court (Tr. 217),
7. a liquid inlet at the end of apparatus opposite from that at which said feed inlet for divided material is positioned,	7. a liquid inlet at the end of apparatus opposite from that at which said feed inlet for divided material is positioned (Tr. 218),
8. and discharge outlets for the liquid and the divided material at the ends of the apparatus opposite their respective inlets.	8. and discharge outlets for the liquid and the divided material at the ends of the apparatus opposite their respective inlets (Tr. 217-218).

Claim 1 of Silver patent Tab 11, S.A.	**Krauss (Tab 18, OL. 8-F) Fig. 1 disclosure.**
1. A diffusion process, which comprises the movement of cossettes or the like through a confined treatment zone having a succession of treatment stages,	1. A diffusion process, which comprises the movement of cossettes or the like through a confined treatment zone having a succession of treatment stages (Tr. 216),

Note: These two elements are precisely the same unless the Court finds that the word "confined" implies gas-tight cover for the treatment zone to confine gases,

etc., as explained in the Silver patent. If the word "confined" is given such an interpretation, then Morton does not include such an element any more than does Krauss.

2. each said stage including alternate downward and upward courses of cossette travel,	2. each said stage including alternate downward and upward courses of cossette travel (Tr. 216),

Note: Each Krauss cell has two side by side vertical legs connected at the bottom just as in the Silver patents so that the cossettes travel downwardly of one leg, then laterally, and then upwardly of the other leg to the discharge end.

3. feeding cossettes into one end of said confined zone,	3. feeding cossettes into one end of said confined zone (Tr. 216),

Note: We again point out that neither Morton nor Krauss has a confined treatment zone in the sense of a complete gas-tight closure for the purposes of the Silver device.

4. flowing juice in a progressive movement through the succession of treatment stages in a separate course generally countercurrent to the cossette travel,	4. flowing juice in a progressive movement through the succession of treatment stages in a separate course generally countercurrent to the cossette travel (Tr. 216),

Note: Notice that this element of the claim does not in terms or otherwise exclude pumps or differential pressure systems.

5. moving said juice into the respective treatment stages at a point intermediate the ends of the downward course,	5. moving said juice into the respective treatment stages at a point at the upper end of the downward course (Tr. 218),

Note: Whether the juice is introduced in Krauss (Tab 18, OL. 8-F) at a point intermediate the ends of the downward course depends upon whether the claim means intermediate the downward course of the cossettes or of the treatment stage. Notice that in Krauss (Tab 18, OL. 8-F) the juice is introduced at the liquid level in the downward course, just as in the Morton machine, but the cossettes drop by gravity from a point higher than the point of introduction of the juice, just as in the Morton machine. Thus, if such element includes Morton, it must include Krauss.

6. directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with the travel of the cossettes,	6. directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with the travel of the cossettes (Tr. 218),
7. withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage,	7. withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage (Tr. 217),

Note: The juice in Krauss (Tab 18, OL. 8-F) is withdrawn at the conduit at the center of each filter which is approximately at the fluid level in the cell. In Krauss (Tab 18, OL. 8-F) it is drawn by means of a vacuum pump, whereas in Morton, wherein the withdrawal occurs at approximately the same point with respect to the fluid level, the juice discharges by gravity. However, this element of the claim does not exclude by words of lim-

itation the use of suction pumps, nor is it limited to a gravity flow alone.

8. and discharging the juice and cossettes separately from the treatment.	8. and discharging the juice and cossettes separately from the treatment (Tr. 218).

It is obvious from the foregoing that this claim of Silver reads directly on the Krauss (Tab 18, OL. 8-F) Fig. I disclosure, the only difference being in the use of the words "confined treatment zone" and "moving said juice into the respective treatment stages at a point intermediate the ends of the downward course". These two differences are completely immaterial differences and would not be patentable differences, as certainly no invention would be required to put a gas-tight cover over the Krauss machine (if the claim is so limited), or to introduce the juice (instead of into the extreme top of the downward course) at a point slightly below the top of the fluid level.

However, it is noted that the treatment zone of the Morton diffuser is not "confined" in the sense of being gas-tight for the purposes of the Silver patent, and likewise the fluid inlet is at approximately the top of the fluid level in each cell as in Krauss (Tab 18, OL. 8-F) Fig. 1. Therefore, if the claim is construed literally and linguistically, it reads directly on Fig. 1 of Krauss (Tab 18, OL. 8-F) to the exact degree that it reads on Morton and is therefore invalid.

COMPARISON WITH RAK TAB 19, OL. 8-G.

Claim 7 of Silver patent Tab 12, S.B.	Rak (Tab 19, OL. 8-G) Disclosure.
1. A diffusion process, which comprises the movement of divided material through a confined treatment zone having a succession of treatment stages,	1. A diffusion process, which comprises the movement of divided material through a confined treatment zone having a succession of treatment stages (Tr. 218-219),
2. feeding divided material into one end of said confined zone,	2. feeding divided material into one end of said confined zone (Tr. 219),
3. flowing liquid by gravity in a progressive movement through the succession of treatment stages along a course generally countercurrent to the divided material travel,	3. flowing liquid by gravity in a progressive movement through the succession of treatment stages along a course generally countercurrent to the divided material travel (Tr. 224),
4. introducing the liquid into the respective treatment stages near one end of each stage and in the path of divided material moving into said stage,	4. introducing the liquid into the respective treatment stages near one end of each stage and in the path of divided material moving into said stage (Tr. 223-224),
5. directing the divided material so intermixed with liquid through substantially the entire treatment stage in an action in which the liquid moves concurrently with the travel of divided material,	5. directing the divided material so intermixed with liquid through substantally the entire treatment stage in an action in which the liquid moves concurrently with the travel of divided material (Tr. 223-224),
6. elevating the divided material out of the liquid at the opposite end of said stage in an action in which the elevating movement is utilized to transfer the divided material from said stage to the next treatment stage while draining liquid back through the divided material	6. elevating the divided material out of the liquid at the opposite end of said stage and then laterally transferring the divided material from said stage to the next treatment stage while draining liquid back through the divided material during such elevation and be-

during such elevation and before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage,	fore it is again brought in contact with the liquid at the point of intermixture in the next treatment stage* (Tr. 223-224),
7. then subjecting said liquid to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course,	7. then subjecting said liquid to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course (Tab 19, OL. 8-G),

Note: Screens or "sieves" are provided in the Rak apparatus at the discharge points thereof labeled C2, C3, C4 and C5 in Fig. 1 of the Rak drawings.

8. and discharging the liquid and divided material separately from the treatment zone.	8. and discharging the liquid and divided material separately from the treatment zone (Tab 19, OL. 8-G).

Note: It is seen, therefore, that the Rak disclosure meets every term of every element of claim 7. It is true that Rak intends to and does compress the cossettes during their travel through the treatment stages, but, however, *the claims of the Silver patent do not expressly exclude any such compression and there are no words of limitation in them which confine their scope to a non-compressing conveyance of the cossettes through the treatment stages.*

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*Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 282-283, as follows:

"Q. By the way, in the Rak patent there is a period in its operation that the cossettes are lifted out of the liquid during a transfer from one cell to a subsequent cell; isn't that so? A. I do not recognize that they are lifted out.

Q. It is a fact, however, that there is a lateral transfer—an upward movement of the cossettes and a lateral transfer and a deposit into the top of the succeeding cell? A. That is right."

Claim 2 of Silver patent Tab 12, S.B.	Rak (Tab 19, OL. 8-G) Disclosure.
1. Diffusion apparatus, comprising a series of treatment cells interconnected for the progressive movement of divided material therethrough,	1. Diffusion apparatus, comprising a series of treatment cells interconnected for the progressive movement of divided material therethrough* (Tr. 223),
2. a feed inlet for divided material at one end of said apparatus,	2. a feed inlet for divided material at one end of said apparatus (Tr. 223),
3. conveyor means in each said cell for imparting said progressive movement to divided material,	3. conveyor means in each said cell for imparting said progressive movement to divided material (Tr. 223),
4. a plurality of conduit members arranged with each member extending between two cells of the series to impart a gravity flow of liquid in a direction generally countercurrent to the travel of divided material through the apparatus, the outlet of each conduit member being positioned adjacent the divided material inlet end of each cell and the intake of each said conduit member being adjacent the divided material discharge	4. a plurality of conduit members arranged with each member extending between two cells of the series to impart a gravity flow of liquid in a direction generally countercurrent to the travel of divided material through the apparatus, the outlet of each conduit member being positioned adjacent the divided material inlet end of each cell and the intake of each said conduit member being adjacent the divided material discharge

*Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 281-282, as follows:

"Mr. Mellin. The Rak patent. I will name the steps.

Q. Let us take the steps one by one. Isn't it true, in Plaintiff's Exhibit 3, there is first a continuous diffusion process? A. Yes.

Q. Isn't it true that, in Plaintiff's Exhibit 3, there is disclosed a course of cossette travel which includes upward and downward courses of treatment? A. Yes.

Q. Isn't it a fact that the liquid or juice is introduced in the treatment at an intermediate point in the travel of the cossettes? A. Yes."

end of a preceding cell, whereby the liquid is caused to flow concurrently with the divided material throughout substantially the entire length of each cell,	end of a preceding cell, whereby the liquid is caused to flow concurrently with the divided material throughout substantially the entire length of each cell* (Tr. 224),
5. said conveyor means including apertured members and a portion of said means extending above the level of liquid adjacent the discharge end of each cell to elevate divided material out of the liquid and drain the material before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage,	5. said conveyor means having a portion extending above the level of liquid adjacent to the discharge end of each cell to elevate the divided material out of the liquid and drain the material before it is again brought in contact with the liquid at the point of intermixture in the next treatment stage (Tab 19, OL. 8-G),

Note: The only distinction between these two elements is that the Rak patent (Tab 19, OL. 8-G) discloses a solid scroll and draining would take place between the exterior perimeter of the scroll and the cell wall, while in the Silver patent the flights of the conveyor are perforated. There is, however, no patentable distinction between these two as they both perform the same function in substantially the same manner.

6. a screening member disposed in the liquid adjacent the portion of said conveyor means which elevates divided material above the liquid level, said screening member being adapted	6. a screening member disposed in the liquid adjacent the portion of said conveyor means which elevates divided material above the liquid level, said screening member being adapted

*Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 282, as follows:

"Q. Isn't it a fact that the Rak patent discloses a concurrent or generally concurrent travel of juice and cossettes through each stage of treatment? A. Yes."

to screen the liquid before it passes into the conduit intake,	to screen the liquid before it passes into the conduit intake (Tab 19, OL. 8-G),
7. a liquid inlet at the end of apparatus opposite from that at which said feed inlet for divided material is positioned,	7. a liquid inlet at the end of apparatus opposite from that at which said feed inlet for divided material is positioned (Tr. 223),
8. and discharge outlets for the liquid and the divided material at the ends of the apparatus opposite their respective inlets.	8. and discharge outlets for the liquid and the divided material at the ends of the apparatus opposite their respective inlets (Tab 19, OL. 8-G).

Note: This claim likewise does not exclude from its scope the compressing taper of the Rak cells, and, consequently, would include the Rak disclosure within its scope. The only difference between what the claim calls for and the Rak disclosure are so minor, as above set forth, as to be of no consequence.

Claim 1 of Silver patent Tab 11, S.A.	**Rak (Tab 19, OL. 8-G) Disclosure.**
1. A diffusion process, which comprises the movement of cossettes or the like through a confined treatment zone having a succession of treatment stages,	1. A diffusion process, which comprises the movement of cossettes or the like through a confined treatment zone having a succession of treatment stages (Tr. 232),
2. each said stage including alternate downward and upward courses of cossette travel,	2. the stages of cossette travel in this patent include alternate upward and downward courses of cossette travel; that is to say, one stage is upward and the succeeding stage is downward (Tr. 223),

Note: This is an immaterial difference, however, because having upward and downward courses of cossette

travel in each stage is old in the Krauss prior art patent (Tab 18, OL. 8-F), and no different result is effected.

3. feeding cossettes into one end of said confined zone,	3. feeding cossettes into one end of said confined zone (Tr. 223),
4. flowing juice in a progressive movement through the succession of treatment stages in a separate course generally countercurrent to the cossette travel,	4. flowing juice in a progressive movement through the succession of treatment stages in a separate course generally countercurrent to the cossette travel (Tr. 223),
5. moving said juice into the respective treatment stages at a point intermediate the ends of the downward course,	5. moving said juice into the respective treatment stages at a point intermediate the ends of the downward course,* (Tab 19, OL. 8-G),
6. directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with the travel of the cossettes,	6. directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with travel of the cossettes (Tr. 223-4),
7. withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage,	7. withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage† (Tr. 223-4),

*Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 282, as follows:

"Q. Isn't it a fact that the liquid or juice is introduced in the treatment at an intermediate point in the travel of the cossettes? A. Yes."

†Mr. Silver so testified in his deposition, Plaintiff's Exhibit 20, Tr. 282-3, as follows:

"Q. By the way, in the Rak patent there is a period in its operation that the cossettes are lifted out of the liquid during

8. and discharging the juice and cossettes separately from the treatment.	8. and discharging the juice and cossettes separately from treatment (Tab 19, OL. 8-G).

Note: Therefore, it is seen that the only difference between the process called for by this claim and the process of Rak (Tab 19, OL. 8-G) is that Rak does not have alternate upward and downward courses in each stage of treatment, but the stages themselves are alternately upward and downward as admitted by Mr. Silver.

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a transfer from one cell to a subsequent cell; isn't that so? A. I do not recognize that they are lifted out.

Q. It is a fact, however, that there is a lateral transfer—an upward movement of the cossettes and a lateral transfer and a deposit into the top of the succeeding cell? A. That is right."

Appendix II

THE DISCLOSURE OF THE NEUFELDT (TAB 16, OL. 8-D) PATENT AS COMPARED WITH THE ACCUSED MORTON BATTERY.

The Accused Morton Battery.	The Neufeldt (Tab 16, OL. 8-D) Disclosure.
	(See Tr. commencing page 207.)
The accused Morton battery is constructed and operates as follows:	The battery shown in the Neufeldt patent is constructed and operates as follows:
1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end,	1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end,
2. the direction of the travel of the juice through the entire machines is generally countercurrent to the direction of travel of the cossettes,	2. the direction of the travel of the juice through the entire machines is generally countercurrent to the direction of travel of the cossettes,
3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,	3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,
4. the juice is admitted at the end of the machine opposite to that into which the cossettes are introduced and travels in a sinuous course successively through the cells from one end of the machine to the other by gravity,	4. the juice is admitted at one end of the machine opposite to that into which the cossettes are introduced and travels in a sinuous course successively through the cells from one end of the machine to the other by gravity,
5. the direction of travel of the juice and cossettes is con-	5. the direction of travel of the juice and cossettes is con-

current and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a rotating mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity,

current and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a rotating mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity,

Note: The rotating means in Neufeldt is a screw conveyor, the lower end of which projects into the cell and the upper end of which overlies the end of the succeeding cell (Tr. 208).

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a ribbon type of screw conveyor,

9. each cell has a rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cos-

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a helical conveyor not shown whether it is a solid or interrupted or ribbon type,

9. each cell has a rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cos-

settes to the succeeding cell into which they drop by gravity,	settes to the succeeding cell into which they drop by gravity,
10. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion,	10. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion,
11. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity,	11. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by pumps, although the flow through each individual cell is by gravity,
12. the introduction of the fluid in each cell is at substantially the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,	12. the introduction of the fluid in each cell is slightly above the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,
13. the cossettes and the juice are separately discharged from the machine,	13. the cossettes and the juice are separately discharged from the machine,
14. there is no recirculation for heating purposes of the juice in each cell.	14. there is a partial recirculation of the juice in each cell for the purpose of temperature control.

Note: As Mr. Shafor testified (Tr. 209), recirculation would not affect the diffusion process.

Appendix III

THE DISCLOSURE OF THE KRAUSS (TAB 18, OL. 8-F) PATENT (FIG. 2 THEREOF) AS COMPARED WITH THE ACCUSED MORTON BATTERY.

This prior patent (Fig. 2) discloses a continuous diffusion process and apparatus.

The Accused Morton Battery.	The Krauss (Fig. 2) (Tab. 18, OL. 8-F) Disclosure.
	(See Tr. commencing page 215.)
The accused Morton battery is constructed and operates as follows:	The battery shown in Fig. 2 of the Krauss patent is constructed and operates as follows:
1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end,	1. A plurality of separate horizontally disposed cells through which the cossettes and juice travel generally horizontally from one end of the cell to a point short of the other end,
2. the direction of the travel of the juice through the entire machine is generally countercurrent to the direction of travel of the cossettes,	2. the direction of the travel of the juice through the entire machine is generally countercurrent to the direction of travel of the cossettes,
3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,	3. the cossettes are introduced into one end of the machine and travel in a generally horizontal sinuous course successively through the cells from one end of the machine to the other,
4. the juice is admitted at one end of the machine opposite to that into which the cossettes are introduced and trav-	4. the juice is admitted at one end of the machine opposite to that into which the cossettes are introduced and trav-

els in a sinuous course successively through the cells from one end of the machine to the other by gravity,

5. the direction of travel of the juice and cossettes is concurrent and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a rotating mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity,

els in a sinuous course successively through the cells from one end of the machine to the other under the influence of pumps,

5. the direction of travel of the juice and cossettes is concurrent and generally horizontal throughout the major portion of each cell,

6. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a mechanism to the adjacent end of the succeeding cell and deposited in such cell by gravity,

Note: The transfer mechanism of Krauss (Fig. 2) includes a conventional form of centrifuge (Tr. 220) into which both the cossettes and the juice are deposited at the discharge end of each cell. This effects drainage of the cossettes and a separation of the cossettes and the juice, and the cossettes are then discharged into a conveyor by which they are elevated and then deposited by gravity into the receiving end of the succeeding cell. The juice meanwhile is directed to its succeeding cell in the general countercurrent concurrent scheme. This is, of course, one mechanical way of effecting transfer and drainage and is merely the equivalent of all other ways in that it produces substantially the same result in substantially the same way; i.e., effecting separation of the cossettes and juice, a drainage of the cossettes and a transfer to the succeeding cell while the juice is directed to its succeeding cell.

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

7. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drained juice being directed into the succeeding cell, while the cossettes are elevated and deposited by gravity into the proper cell,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a ribbon type of screw conveyor,

8. each cell has a rotating, propelling and agitating means revolving on a horizontal axis extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice. This means is a helical conveyor not shown whether it is a solid or interrupted or ribbon type,

Note: We point out here that the Krauss conveyor and agitator is illustrated as being both a solid scroll conveyor and an interrupted or paddle type of scroll conveyor.

9. each cell has a rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cossettes to the succeeding cell into which they drop by gravity,

9. each cell is equipped to discharge the cossettes as well as the juice into a centrifuge to separate the cossettes and the juice, the cossettes being elevated by a rotating scroll and deposited by gravity into the next or succeeding cell,

10. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cell in general up-hill fashion,

10. the cells are arranged on the same level and the travel of the cossettes is from the cell at one end through the succeeding cells in general horizontal travel,

11. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity,

12. the introduction of the fluid in each cell is at substantially the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,

13. the cossettes and the juice are separately discharged from the machine.

11. the juice is introduced in the cell at the end of the machine opposite the end into which the cossettes are deposited and the juice travels successively and generally countercurrent to the cossettes through the remaining cells but concurrently in the cells with the cossettes under the influence of pumps,

12. the introduction of the fluid in each cell is above the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,

13. the cossettes and the juice are separately discharged from the machine.

Appendix IV

THE DISCLOSURE OF THE DOBLER (TAB 17, OL. 8-E) PATENT AS COMPARED WITH THE ACCUSED MORTON BATTERY.

This prior patent, Tab 17, OL. 8-E, according to the evidence commencing at Tr. 210, diagrammatically illustrates an apparatus for diffusing sugar in a continuous diffusing process which, in construction, is substantially the same as the Morton battery, the only difference being that in Dobler the flow of juice is countercurrent in each cell rather than concurrent as in Morton.

The Accused Morton Battery.

The accused Morton battery is constructed and operates as follows:

1. a plurality of separate horizontally disposed cells arranged in parallelism and disposed on successively higher elevations,

2. the cossettes are introduced at the end of the lowermost cell and then successively into each higher cell and travel generally horizontally through each cell and are discharged at the end of the highest cell,

3. the juice is introduced in the end of the highermost cell and travels generally countercurrently to the cossettes throughout the machine but concurrent in each cell,

The Dobler Disclosure (Tab 17, OL. 8-E).

(See Tr. commencing page 210.)

The battery shown in the Dobler patent is constructed and operates as follows:

1. a plurality of separate horizontally disposed cells arranged in parallelism and disposed on successively higher elevations,

2. the cossettes are introduced at the end of the lowermost cell and then successively into each higher cell and travel generally horizontally through each cell and are discharged at the end of the highest cell,

3. the juice is introduced into the end of the highermost cell and travels generally countercurrent to the travel of the cossettes through the cells and travels through each cell concurrently with the cossettes therein,

4. the travel of the juice in its horizontal sinuous course is effected by gravity,

5. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a foraminous or perforated fork-like member rotatingly mounted adjacent the end of the cell to elevate the cossettes out of the cell and out of the juice therein and deposit the cossettes into the adjacent end of the cell of next higher elevation by gravity,

6. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

7. each cell has a rotating, propelling and agitating means of the scroll type revolving on a horizontal axis in the horizontal cell and extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice; this means is a ribbon type of scroll conveyor,

8. each cell has a grid-like rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cossettes to the succeeding cell into which they drop by gravity,

4. the travel of the juice in its horizontal sinuous course is effected by gravity,

5. after traveling generally horizontally through a major portion of each cell the cossettes are elevated by a foraminous or perforated fork-like member rotatingly mounted adjacent the end of the cell to elevate the cossettes out of the cell and out of the juice therein and deposit the cossettes into the adjacent end of the cell of next higher elevation by gravity,

6. a draining action of the cossettes is effected during the transfer of the cossettes from one cell to the succeeding cell, the drainage draining back into the cell from which the cossettes are removed,

7. each cell has a rotating, propelling and agitating means of the scroll type revolving on a horizontal axis in the horizontal cell and extending longitudinally of the cell to move the cossettes horizontally therethrough and to rotatively agitate them in the juice; this means is an interrupted type of scroll conveyor,

8. each cell has a grid-like rotating member for engaging the cossettes in the cell and elevating the cossettes above the fluid level and transferring the cossettes to the succeeding cell into which they drop by gravity,

Note: In the Morton machine this element is a rotating fork which is on the same axis or shaft as the scroll agitator and conveyor. In the Dobler patent each cell is fitted with a rotating perforated grid member which revolves likewise about a horizontal axis but which dips into the preceding cell and lifts the cossettes out in a manner similar to that of the Morton fork and then drops them by gravity into the succeeding cell. Although the construction is different in detail, they both accomplish exactly the same purpose in almost exactly the same fashion.

9. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion,	9. the cells are arranged at successively higher levels and the travel of the cossettes is from the cell of the lowest level through the succeeding cells in general up-hill fashion,
10. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity,	10. the juice is introduced in the cell of highest elevation and travels successively in a down-hill direction through the cells of lowest elevation by gravity,
11. the introduction of the fluid in each cell is at substantially the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,	11. the introduction of the fluid in each cell is above the fluid level in the cell and the outlet or discharge from the cell is just slightly below the fluid level in the cell,
12. the cossettes and the juice are separately discharged from the machine.	12. the cossettes and the juice are separately discharged from the machine.

Note: *The only difference between the Dobler disclosure and the Morton machine is the fact that in Morton the flow is concurrent in each cell, whereas in Dobler it is*

countercurrent. In all other respects, including all structural respects, the machines are identical. Mr. Shafor at Tr. 214 said the only thing necessary to do to make the Dobler machine a countercurrent concurrent machine is to reverse the discharge and inlet connections between the cells.

In the Supreme Court
OF THE
United States

OCTOBER TERM, 1953

No. .....

OLIVER UNITED FILTERS INCORPORATED,
Petitioner,

vs.

HAROLD F. SILVER (an individual),
Respondent.

BRIEF IN SUPPIORT OF PETITION FOR WRIT OF CERTIORARI.

The writ should issue to restore to the public domain the field of continuous countercurrent concurrent sugar beet diffusion which the Court of Appeals has subjected to the monopoly of the Silver patents Nos. 2,390,131 and 2,468,720. The Court should say whether under the Patent Law:

1. Process and apparatus claims, abandoned in order to distinguish from the prior art, may be restored to the patent grant to support a charge of infringement of a process and apparatus made under such prior art.

2. Process and apparatus claims may not be expanded and sustained upon a doctrine of equivalents so broad as to write into the grant processes and apparatus which are the subject of prior expired patents.

3. Whether the monopoly to a process accorded under one patent can be extended by the subsequent grant of another patent to the same inventor claiming essentially the same process claimed in the first patent and disclosing and claiming essentially the same apparatus disclosed in the first patent and wherein said process claims define the inherent functions of said apparatus.

4. Whether a combination of elements shown to be old by the prior art can be the subject of a valid patent solely by reason of the fact that improvements have been made to one or more of such elements.

5. Whether prior art can be disregarded solely because the processes and apparatus disclosed therein have never been put into commercial use.

6. Whether an old process can be the subject of a valid patent merely by reason of the fact that it can be carried out in modified equipment.

7. Whether the inherent function of a machine can be the subject of a valid process patent.

8. Whether a structure concededly not designed and not developed until years after the filing date of a patent application and in no way disclosed therein can be included within the monopoly granted on a patent resulting from said application.

OPINIONS BELOW.

The opinion of the District Court is reported in 93 USPQ 87. The findings are at Tr. 25.

The opinion of the Court of Appeals for the Tenth Circuit is reported in Tr. 357, 98 USPQ 240, and the judgment appears at Tr. 370.

JURISDICTION.

As noted in the petition, jurisdiction is invoked under 28 U.S.C. 1254.

STATEMENT OF FACTS.

The essential facts are set forth in this petition.

SPECIFICATION OF ERRORS TO BE URGED.

The Court of Appeals erred:

1. In holding valid and infringed any of the claims of the Silver patents Nos. 2,390,131 and 2,468,720, and in affirming the judgment of the District Court with respect thereto.

2. In reading into the claims of each patent the process claims cancelled and abandoned by Silver in the Patent Office proceedings.

3. In determining the question of infringement on the basis of the disclosures contained in the specifications

of Silver's patents, Silver's testimony and the alleged commercial success of the Silver battery rather than on the basis of the claims of the Silver patents.

4. In holding that the apparatus claims of the Silver patent No. 2,468,720 define new and patentable combinations of old elements solely by reason of the fact that some of these elements were improved by Silver and irrespective of the fact that the same combination of elements is shown to be old by the prior art.

5. In giving little or no weight to the prior art by reason of the fact that such art had not gone into commercial use.

6. In including within the monopoly accorded to Silver under his patents a horizontal scroll type cell and battery concededly not designed or developed by him until long after the issuance to him of his patent No. 2,390,131 and until long after the filing date of his patent No. 2,468,720.

ARGUMENT.

REASONS RELIED ON FOR ALLOWANCE OF WRIT.

This Court should grant the writ prayed for because:

I. POSSIBILITY OF CONFLICT REMOTE.

The trial Court has held both patents valid and infringed. The Court of Appeals has affirmed: The possibility of further litigation of these patents is remote for if the judgment of the Court below is allowed to stand, petitioner will be eliminated as a competitor of Silver and Silver has no other competition in this country in

the manufacture and sale of continuous sugar beet diffusers. The cost of a sugar beet diffuser battery of the character under discussion is about $250,000.00 (Tr. 72), and by the very nature of this type of equipment, its development is costly and must be made with the cooperation of a sugar beet mill. The cost to a mill of a shutdown of one of its batteries during a sugar beet campaign would far outweigh the cost of the unit itself, and these two factors would involve a contingent liability on the part of a manufacturer and on the part of a sugar mill so large that no one could well afford to assume it. Prior to the judgments of the trial Court and the Court of Appeals, the monopoly accorded to Silver under his two patents could be determined with a certain degree of accuracy, but in view of these judgments, wherein both Courts have included within the monopoly accorded to Silver a horizontal scroll type of diffuser cell and battery concededly not designed or developed by Silver until long after the issuance of his first patent and not until long after the filing date of the application of his second patent, the public is left without any yardstick for now determining the metes and bounds of Silver's monopoly. Without such a yardstick, it is extremely unlikely that anyone is going to the expense of attempting to develop a competitive structure, and until such competitive structure is developed, there would, of course, be no basis for further litigation involving the two Silver patents. Silver, therefore, is likely to maintain a complete monopoly with respect to continuous diffusers of the concurrent countercurrent type for use in the sugar beet industry, a very important industry in this country, as well as for use in other industries.

These circumstances properly call for the issuance of the writ prayed for. The Court so pointed out in:

Mackay Radio & Telegraph Co. v. Radio Corporation of America (1939), 306 U.S. 86, 89;

Muncie Gear Works, Inc. v. Outboard, Marine & Manufacturing Co. (1942), 315 U.S. 759, 765-6;

Exhibit Supply Co. v. Ace Patents Corporation (1942), 315 U.S. 126, 128;

Schriber-Schroth Co. v. Cleveland Trust Co. (1938), 305 U.S. 47, 50.

In *Mackay Radio and Telegraph Co. v. Radio Corporation of America* (1939), 306 U.S. 86, the Court (p. 89):

> "granted certiorari * * * because of the nature and importance of the case, on a petition which urged as grounds for its allowance that validity and infringement * * * were in doubt and that, as petitioner is the only competitor of respondent * * * further litigation resulting in conflict of decision among circuits, was improbable."

The writ should likewise issue here.

II. IMPORTANT PATENT QUESTIONS HAVE BEEN DECIDED CONTRARY TO THIS COURT'S DECISIONS.

The Court below has applied principles of law which are in conflict with this Court's cases. Extended to other patent causes, the mischief of the principles given sanction by the Court below will be great.

1. Silver, by expressly disclaiming machines and processes in which the cossettes flow through a horizontally disposed treatment zone from the scope of his patent claims in order to avoid the prior art and to obtain the patent, thereby disclaimed and surrendered the right to now contend to the contrary that his patent claims include such machines and processes.

When Silver filed his application for his first patent (Tab 11, S.A), he included twenty claims (pages 18 to 25 of Exhibit C), not one of which was limited to or defined a process in which each treatment stage included "alternate downward and upward courses of cossette travel". Therefore, *as filed,* the claims included not only the *vertical cells, or stages,* as shown and claimed in the patent, but also "horizontal cells *and stages*" as used in the accused Morton battery and disclosed in the prior art patents. The Patent Office recognized this and rejected the claims on the disclosures of prior art patents (Exhibit C, page 29), the most pertinent of which are the following which are here in evidence:

Steffen (Tab 13, OL. 8-A)
Turrentine (Tab 14, OL. 8-B)
Krauss (Tab 18, OL. 8-F)
Neufeldt (Tab 16, OL. 8-E)
Gazagne (Tab 15, OL. 8-C)
Olier (Tab 20, OL. 8-H)

The Patent Office, in rejecting the claims, stated (Exhibit C, pages 29 and 30):

> "The claims are further rejected as unpatentable over any of Steffen, Turrentine, Krauss or Neufeldt. Each of these patents shows a diffusion process which comprises the progressive movement of cossettes through a treatment zone having a plurality of separated treatment stages, in the sense that applicant's

process is comprised of separated stages, in both of the disclosed embodiments. Juice flows progressively through the stages in a course generally countercurrent to the cossette travel, and concurrent in each of the treatment stages. The references show both mechanical propulsion and gravity flow, sealed and unsealed. The rate of flow is not shown to be critical and whether the rate of flow of the juice be greater or less than that of the cossettes is a matter of choice which may well be left to the judgment of the operator."

In response to this rejection, Silver acquiesced therein and *cancelled all of the original claims* and substituted fourteen entirely new claims (Exhibit C, pages 32 to 39). The new claims likewise did not define the process as including "alternate downward and upward courses of cossette travel" and included both vertical machine operation, as shown in the patent, and horizontal machine operation, as in the accused Morton machine and prior art machines. These claims were also rejected (Exhibit C, pages 44 and 46) and were cancelled (Exhibit C, page 47) by Silver. Silver then submitted another entirely new set of claims (Exhibit C, pages 47 to 57 incl.) which became claims 1 to 11 of the patent in suit (Tab 11, S.A). These claims different from the previously rejected and cancelled claims in that each and every one of them defines and limits the process to one in which *each treatment stage includes "alternate downward and upward courses of cossette travel".*

Silver, in arguing that the claims so limited distinguished from and constituted invention over the prior art and that such "upward and downward courses of cossette

travel" was a material part of his invention, stated as to such limitation in the claims as follows (Exhibit C, page 58):

> "In this connection, it should be noted that the cossettes which are the material being treated vary considerably in specific gravity, to such an extent that at times they float on the juice with which they are mixed, while at other times they sink in such juice. As a result, any treatment which requires the movement of the cossettes through a horizontally disposed treatment zone cannot insure adequate and uniform extraction, as the juice-cossette contact areas of such zone are relatively small in proportion to the volumetric capacity of the zone."

Note that in such statement (stated by Silver to be correct in his testimony, R. 116, 117 and 118) Silver contends that horizontal stages (such as applicant's and prior art patents employ) would not insure adequate and uniform extraction, and from this contended that the newly submitted claims which excluded such horizontal stages were patentable over and patentably distinguished from the prior art patents cited.

Silver, on page 59 of Exhibit C, amplifies the difference in effect on extraction between his claimed "upward and downward courses of cossette travel" and the cossette travel in horizontal cells (like the accused Morton machine) by stating (Exhibit C, page 59):

> "Applicant uses the arrangement shown in Figs. 1 and 2 to provide upward and downward courses in which the juice and cossettes are so intermixed that all exposed surfaces of the cossettes are continuously and completely in contact with juice through the

entire range of the concurrent movement. Further, during said movement the juice is impelled by the cossettes and tends to drag against said surfaces to insure a substantial penetration of the juice into said surfaces.

"Particularly in the upward course, the juice is moved in opposition to gravitational influences until it reaches the elevated point of withdrawal, and in this action a substantial penetration of cossette surfaces results because of the gravitational urge. Thus, applicant attains a high degree of extraction in a relatively short treatment interval, while using gravity flow in the countercurrent circulation of juice. The operating cost of the operation is very low, while the efficiency has not been duplicated on a commercial scale by any other process."

Silver reiterated on page 59 of Exhibit C that if the machine employs a horizontal tank with a spiral type of conveyor (which the accused Morton battery employs) for movement of the cossettes in the tank, as shown in the prior patents, a uniform mixture of juice and cossettes cannot be obtained. We quote (Exhibit C, page 59):

"The arrangements shown in Turrentine and Steffen employ a horizontally disposed tank having a spiral type conveyor for movement of the cossettes. With juice in the tank and cossettes fed thereto, they may either float on the surface of the liquid or sink to the bottom, depending on their specific gravity, and thus there would not be a uniform intermixture of juice and cossettes such as applicant provides."

Silver then makes the flat admission that the claims distinguish from the prior art and are patentable because

they are limited to a process in which each stage includes upward and downward courses of cossette travel, as follows (Exhibit C, page 60):

> "The rejected claims have been cancelled and a new set of claims substituted therefor. All of the new claims are based on claim 35, *which distinguishes from the cited art practices in reciting the treatment of the cossettes at each stage in upward and downward courses and the withdrawal of the juice near the top of the upward course* to permit draining of the cossettes before they are again brought in contact with the juice." (Italics ours.)

After these statements and contentions by Silver, the claims were granted.

After formal allowance (Exhibit C, page 61), Silver added five additional claims, which are (Exhibit C, pages 62 to 66) claims 12 to 16, inclusive, of the patent in suit (Tab 11, S.A), each and every one of which include the express limitation that each "stage including alternate downward and upward courses of material travel". The patent (Tab 11, S.A) in suit then issued with all of the claims so expressly limited.

Although Silver, beginning with line 63 of the left-hand column appearing on page 2 of his patent No. 2,390,131 (Booklet of Patents, Tab 11, Silver Exhibit A) states:

> "While this is a preferred arrangement, it will be understood that the process also may be performed in cells disposed horizontally with a positive or gravity circulation of liquid employed."

it is to be observed that nowhere in this patent or in the later Silver patent does Silver disclose how his process

can be performed in a horizontal type of cell nor the details of such cell.

Furthermore, Silver, on direct examination, testified as follows concerning the development of the so-called horizontal scroll type of diffuser (Tr. 52):

"Q. I think that is a matter of no particular consequence. Well, now, when did you first undertake to develop a modified diffuser of the type you call the scroll type? A. In 1946.

Q. When in 1946? A. When I had the initial difficulty with the breakage of shafts in the Nyssa machine, which had to be kept operating, I would like to make that clear, the machine was kept operating throughout the entire campaign with exceptional operating results, in spite of mechanical difficulties.

Q. What did you do about pursuing this idea of a different type of conveyor? A. I approached the Union Sugar Company early in 1948 with a proposition that they put in two cells for experimental purposes, full sized cells to be attached to one end of our chain type diffuser, at Betteravia in order to test the action of the cossettes and diffusion possibilities of the scroll type.

Q. You stated, I think, Mr. Silver, that your first effort in the direction of producing a scroll diffuser originated in the latter part of '46 when you were having this trouble? A. Yes, that is the endeavor to.

Q. Did you do anything? A. To get something that would be a little simpler than the chain type diffuser.

Q. When did you conceive of the idea of utilizing the scroll conveyor in a diffuser? A. Oh, that had been in my thinking as a possibility all along. I had not worked out a specific design.

Q. When did you work out a specific design for the scroll type of conveyor? A. In the latter part of 1947 my ideas were consolidated and we commenced design the first part of 1948."

In this connection, it is to be noted that the application for Silver's patent No. 2,390,131 was not filed until December 4, 1945 and, consequently, it should be clear that although the scroll type cell was barely mentioned in the specification of his application and patent, he obviously was not in a position then either to describe how his process could be practiced in such a cell or the details of construction of any such cell.

Thus, it cannot be seriously questioned that Silver in order to avoid the prior art and obtain his patent (Tab 11, S.A), limited the patent claims to a vertical type machine and mechanical process in which each treatment stage included *alternate downward and upward courses of cossette travel.* This limitation was inserted into and remains in each and every claim of that patent to expressly avoid the prior art machines and processes in which the cossettes were directed through *a horizontally disposed treatment zone* just as in the accused Morton machine.

Thus, as a matter of law, as expressed in practically every circuit, including this circuit, Silver thereby did disclaim from the scope of his patent all machines and processes in which the cossettes and juice are required "to travel through" a "horizontally disposed" treatment zone. In that the accused Morton machine "requires movement of the cossettes through a horizontally disposed treatment zone", such Morton machine and its operation

were expressly excluded by Silver from the scope of his patent claims. Therefore Silver surrendered and disclaimed machines and processes such as Morton and its operation, and is now estopped from contending to the contrary, which is that his claims should be "interpreted" to include the Morton machine and its operation.

Therefore, we contend strenuously that as a matter of law the Silver patent, if valid at all, is limited to a vertical machine and process in which *each treatment stage includes alternate downward and upward courses of cossette travel,* and that Silver expressly disclaimed from his claims all processes and machines in which the treatment zone is horizontally disposed such as the accused Morton machine.

The law as applied to the facts as disclosed by the record here with reference to the disclaimer and surrendering by Silver and file wrapper estoppel.

This doctrine of not permitting a patentee to first surrender and disclaim certain processes or machines in seeking his patent and then, after obtaining the patent on that ground, attempting to broaden the scope thereof to include the processes and machines thus disclaimed and surrendered, is one of the most uniformly applied rules in patent law and has been applied by this Court and the Tenth Circuit uniformly with the remaining circuits. The following is the law on the subject:

> *Sutter v. Robinson* (1886), 119 U.S. 530 (p. 541):
> "* * * is not at liberty now to insist upon a construction of his patent *which will include what he was expressly required to abandon* and disavow as a condition of the grant."

Schriber-Schroth Co. v. Cleveland Trust Co. (1940), 311 U.S. 211 (p. 218):

"Where the patentee in the course of his application in the patent office has, by amendment, cancelled or surrendered claims, those which are allowed are to be read in the light of those abandoned and an abandoned claim *cannot* be revived and restored to the patent by reading it by construction into the claims which are allowed."

Texas Co. v. Anderson-Prichard Refining Corporation, 122 Fed. (2d) 829, 841, 842 (C.C.A. 10):

"Where an applicant for a patent acquiesces in the rejection of claims, and amends the claims or substitutes other claims to meet the objection of the Patent Office, he will be deemed to have surrendered and disclaimed what he thus conceded and is bound by the limitations imposed, and it is immaterial whether the rejection was right or wrong."

Jensen-Salsbery Laboratories, Inc. v. O. M. Franklin Blackley Serum Co., 72 Fed. (2d) 15, 18 (C.C.A. 10):

"* * * limitations imposed by the applicant, specially those added by amendment after a claim has been rejected, must be construed against the inventor and regarded as disclaimers; and that the patentee is thereafter estopped to claim the benefit of the rejected claim or such a construction of this amended claim as would be equivalent thereto."

The above case was cited with approval in *Gasoline Products Co. v. Champlin Refining Co.,* 86 Fed. (2d) 552, 561 (C.C.A. 10—November 18, 1936).

Sager v. Glove Corporation, 118 Fed. (2d) 873, 874 (C.C.A. 7):

"* * * It is at once apparent that the plaintiff is in the unfortunate position of attempting, at the same time, to ride two horses traveling in opposite directions. The argument employed before the Examiner to obtain his patent—i.e., that the disclosure of a glove made from a single piece of material was a patentable improvement, defeats his contention of infringement by defendant's glove made from two pieces of material."

See, also:

Tschappat et al. v. Hinderliter Tool Co., 98 Fed. (2d) 994, 999 (C.C.A. 10);

Oliver United Filters, Inc. v. Eimco Corporation, et al., 91 Fed. (2d) 345, 350 (C.C.A. 10);

Fried, Krupp Aktien-Gesselschaft v. Midvale Steel Co., 191 Fed. 588, 610;

Lanova Corporation, et al. v. National Supply Co., 116 Fed. (2d) 235, 238 (C.C.A. 3);

Lily-Tulip Cup Corporation, et al. v. American Lace Paper Co., 76 Fed. (2d) 130, 131 (C.C.A. 2).

Therefore, we contend that the position of the Court of Appeals on this point in the instant case is in conflict with the decisions of this Court and with its own prior decisions on the same point, and that in view of the evidence and the law, the Court below should have found and this Court should find that Silver is now estopped from contending for a construction of the claims of his patents of sufficient scope as would include the accused Morton battery and its operation.

We further contend that if those claims "read" on the Morton battery and its operation, then they likewise and to the same degree can be "read" on the prior art patents cited by the Patent Office in rejecting the claims not limited to "each stage including alternate downward and upward courses of material travel", in evidence as exhibits Book 1, Tab 13, OL. 8-A, Tab 14, OL. 8-B, Tab 18, OL. 8-F, Tab 16, OL. 8-E, Tab. 15, OL. 8-C, Tab 20, OL. 8-H, and are invalid as being completely anticipated thereby.

Detailed comparisons of the claims of the Silver patents with the Krauss and Rak patents are set forth in Appendix I hereto.

2. To impart novelty to Silver's process and claims, the Court below reached to the specifications.

The Court of Appeals in its decision, in analyzing Silver's contribution to the art, stated as follows (Tr. 362, 98 USPQ 240, pages 243, 244):

> "We come then to the question of what Silver has contributed to the art that constitutes patentable inventions. He first undertook to analyze and discover why the countercurrent-concurrent type of diffusion system had not been successful. The claimed patentability lies in the method or process by which the beet stock is made to move in the alternate downward and upward course of travel to cause an enforced submergence in the countercurrent of the juice in a manner to effect an alternate washing, draining, and transfer from one cell to the next without mutilating the cossettes as they move through the course of treatment. The application of force or pressure to the cossettes is avoided so that they remain unmutilated

and in good condition for diffusion activity and thereby retain most of the impurities. In this draining process the juice of high concentration, including the diffusion resistant surface films found on the cossettes, is removed and it returns to the cell of relatively high juice concentration from which it was taken. The district court found that the enforced submergence of the cossettes from above the diffusion liquid with a downward and upward movement while submerged, followed by a drainage of the liquid in that cell before transfer to the next cell made Silver's machine different from those disclosed by the prior art."

Obviously the mere analysis of a problem is not the subject matter of patent protection. It is only the solution to such problem which may or may not be subject to such patent protection.

If the claimed patentable novelty as found by the Court "lies in the method or process by which the beet stock is made to move in the alternate downward and upward course of travel *to cause an enforced submergence* in the countercurrent of the juice in a manner to effect an alternate washing, draining and transfer from one cell to the next *without mutilating the cossettes* as they move through the course of treatment," then the claims are defective, for nowhere in any of the claims of either of Silver's patents is there a limitation concerning *enforced* submergence or mutilation. In this regard, by way of example, claim 1 of the Silver patent 2,390,131 defines Silver's process as follows:

"* * * feeding cossettes into one end of said confined zone, flowing juice in a progressive movement through

the succession of treatment stages in a separate course generally countercurrent to the cossette travel, moving said juice into the respective treatment stages at a point intermediate the ends of the downward course, directing the juice so intermixed with cossettes through a substantial extent of said treatment stage concurrent with the travel of the cossettes, withdrawing said juice from the succeeding upward course at a point near the top thereof to permit draining of the cossettes before they are again brought in contact with the juice at the intermediate position in the downward course of the next treatment stage, and discharging the juice and cossettes separately from the treatment."

It will be here observed that there is no limitation in this claim requiring enforced submergence nor does it contain any requirement that the process be done without the mutilation of the cossettes. These factors are found only in the specifications of Silver's patents and Silver's testimony concerning his process and equipment.

The Court of Appeals, in making its above quoted analysis of Silver's contribution to the art, refers to Findings 14 through 17 of the trial court, these findings appearing as a footnote (at Tr. 362 and 363, page 244 of 98 USPQ 240). Finding 14 is as follows:

"14. Silver, in making his inventions, combined with the countercurrent-concurrent flow system the following major features:

"First: The enforced submergence of the cossettes by causing them to pass from a point above the level of the juice to a point below the level of the juice by giving the cossettes a downward and upward course of movement with respect to the juice level; and

> "Second: A substantial separation of the cossettes and their associated liquid at the time the cossettes are transferred from one cell to the next without the utilization of such force as would mash or damage the cossettes or interfere with the diffusion activity."

While it may be that Silver, in developing his diffuser, actually used the assemblage of the features set forth in these findings, this does not give him the right now to read these features into his claims.

As this Court's cases have held since *White v. Dunbar* (1886), 119 U.S. 47, 51-52, and *McClain v. Ortmayer* (1891), 141 U.S. 419, 423-4, "it is the claims of the patent that measure the grant, and while they may be limited, they may not be enlarged by the specifications".

The same criticism holds true for Findings of Fact 15, 16 and 17 apparently relied upon by the Court in determining the "claimed patentability". The above quoted passage from the opinion of the Court below has been selected and discussed in preference to other passages of the opinion for the reason that this passage seems to be the only one which refers at all to Silver's "claimed patentability". The opinion of the Court of Appeals follows rather closely the opinion of the trial Court and in neither opinion is there an attempt to analyze the claims of the two Silver patents or to make a comparison thereof with the Oliver-Morton diffuser or with the prior art diffusers. As a result of carefully studying both opinions, it appears that the conclusions arrived at by both the trial Court and the Court of Appeals with respect to the scope of Silver's monopoly, the question of validity and the question of infringement were arrived at without

making any analysis of the claims of the Silver patents but rather by the specifications thereof and the testimony of Silver concerning the problems involved in the diffusion of sugar beets and the alleged commercial success of the Silver chain type battery.

As stated by this Court in *McClain v. Ortmayer* above cited, 12 S. Ct. 76, at page 77:

> "• • • While the patentee may have been unfortunate in the language he has chosen to express his actual invention, and may have been entitled to a broader claim, we are not at liberty, without running counter to the entire current of authority in this court, to construe such claims to include more than their language fairly imports. Nothing is better settled in the law of patents than that the patentee may claim the whole or only a part of his invention, and that, if he only describe and claim a part, he is presumed to have abandoned the residue to the public. The object of the patent law in requiring the patentee to 'particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery' is not only to secure to him all to which he is entitled, but to apprise the public of what is still open to them. The claim is the measure of his right to relief, and, while the specification may be referred to to limit the claim, it can never be made available to expand it."

But that is precisely what the Court below has done. It has reached to the specification to enlarge the grant. The result is that the prior art patents above discussed have been swept into the orbit of the two Silver patents. Thus the prior art structures and processes which by law were

public property have been included within the monopoly accorded to Silver.

The Court below has misapplied the doctrine of equivalents. Carried to its inescapable conclusion, the Court's doctrine will sweep into the patent monopoly, just as it has here, much that is public property.

Whatever may be the proper scope of the rule of equivalents, it never should be permitted to convert a specification into a claim, otherwise the scope of the patent of the future will differ much from that of the past. So profound would be the consequences of such a doctrine that no Court should give it sanction. If the statute, 35 U.S.C. 112, which requires the inventor to "particularly point out and distinctly *claim*" his invention is to be changed, that is the proper work for Congress.

With regard to findings of fact and conclusions of law, it is submitted that neither of them could have been of very much help to the Court of Appeals. These findings and conclusions were made by opposing counsel on behalf of the trial Court after the trial Court had made its memorandum opinion and in compliance with the instructions therein contained. As stated by the Court of Appeals in *Process Engineers, Inc. v. Container Corporation of America*, 70 F. (2d) 487, page 489 (C.C.A. 7), March 19, 1934:

> "It is urged that the court's findings should be sustained because supported by some evidence. The weakness of this argument lies in the fact that the findings were not made by the court, but are the work of industrious counsel who combined his argument and a partisan and unfair statement of facts into one

and called it, 'Findings of Fact.' It is difficult to distinguish these findings from the brief of counsel for appellee.

"Such so-called findings do not help an appellate court. They reflect the views of counsel who submitted them and detract from the force and effect which are ordinarily given to findings made by the trial judge. When the abuse is aggravated (and the objectionable practice is growing), the assistance to the appellate court, which findings when carefully made by the trial court afford, is lost, and it becomes necessary for us to study the evidence as though no findings had been made by the District Court."

3. The claims of the Silver patents do not define any new inventions irrespective of any file wrapper estoppel.

The disclosures of the two Silver patents have been discussed in some detail in the Petition beginning at page 5 and the claims of the Silver patent (Silver Exhibit B, Tab 12) are compared with the Krauss and Rak in Appendix I hereto. In Appendix II the Neufeldt patent has been further analyzed in relation to the Morton battery and Appendix IV contains a further analysis of the Dobler patent.

As a result of these analyses, we contend that what was done by Mr. Silver, as disclosed and claimed in his patents, did not meet the standards for invention heretofore set by our Courts as patentable under the law, and that what Mr. Silver did amounted to nothing more than unpatentable mechanical skill.

The law has always required that to sustain a patent, it must disclose more than mechanical skill. *It must disclose an invention.* As tested by the following authorities,

it will be clear that Mr. Silver did not produce a patentable invention.

The last case on this point is by the Supreme Court, which was decided December 4, 1950, and is *The Great Atlantic and Pacific Tea Company v. Supermarket Equipment Corporation,* 340 U.S. 147, 71 S. Ct. 127. In a concurring opinion Justice Douglas stated as follows as to the necessity of invention in a patent:

> "Every patent is the grant of a privilege of exacting tolls from the public. The Framers plainly did not want those monopolies freely granted. The invention to justify a patent had to serve the end of science —to push back the frontiers of chemistry, physics, and the like; to make a distinctive contribution to scientific knowledge. * * *"

Picard v. United Aircraft Corporation (C.C.A. 2, 1942), 128 Fed. (2d) 632, 636:

> "* * * Unless we are to mistake for invention the slow but inevitable progress of an industry through trial and error, and confer a monopoly merely upon the exercise of persistent and intelligent search for improvement, there was no invention in this. * * *"

See, also:

Cuno Engineering Corporation v. Automatic Devices Corporation (Nov. 10, 1941), 314 U.S. 84;

Mandel Bros., Inc. v. Wallace (Nov. 8, 1948), 69 S. Ct. 73, 75.

Thus, we strenuously contend that all Mr. Silver did was to provide an apparatus which differed from the prior art in minor constructional details, and that he did not invent or originate any new process and that the

process claims are merely statements of the functioning of his machine. This is borne out by the uncontradicted testimony of Mr. Shafor (Tr. 190-191).[7]

4. The process claims in suits 7, 9, 10 and 11 of the Silver patent 2,468,720 (Tab 12, Silver Exhibit B) are invalid in that those claims do not define an invention different and patentably distinguishable from the process claimed in the earlier issued patent.

Under this same heading in the Petition beginning at page 22 the facts pertinent to this point have been discussed.

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[7] "Q. * * * Now, in the process of diffusion, is there any difference between the process as carried out in the Morton Diffuser of diffusion that there is in a Robert Battery? A. No.

Q. What is the comparison between the two as far as actual process of diffusion is concerned? A. Robert's Battery is essentially a counter concurrent battery from beginning to end. The only point is that we in the Robert's Battery have no way of transferring cossettes from one cell to the next. Therefore, we manually dump them and get rid of them as soon as they are exhausted. In the two continuous batteries I have seen here and studied, we substitute a mechanical means which will do the transferring and end the manual labor that we use to get them out of the system on the Robert's Battery.

Q. Now, then, on the Robert's Battery, it is a fact, isn't it, that the fresh water that is entered into the battery in the process is first passed through the cossettes most depleted? A. Yes.

Q. And then progressively as that juice picks up sugar, it is progressively passed through cells of cossettes of lesser depletion? A. That is right.

Q. And is that essentially different or essentially the same as the Morton, except for a continuous mechanical movement? A. Essentially the same.

Q. Is there any step in the Morton picture, by the Morton machine, which varies this formula, old formula of sugar diffusion which you have stated? A. No.

Q. Would you state whether or not in the Morton Battery, whether the cossettes are caused to move up and down or just agitated in any other direction, would make any difference as far as diffusion is concerned, or the time rate of diffusion? A. No difference. Relative velocity is the thing.

Q. Relative movement between the cossettes and juice? A. That is right, surrounding juice."

Silver's first patent (Tab 11, S.A) issued on December 4, 1945, and his second patent (Tab 12, S.A) issued almost four years later, to-wit, April 26, 1949, on an application filed September 28, 1945 (three months before the first patent issued), so that for approximately three months' time the applications were copending.

However, the law is manifestly clear that unless the process claims of the second Silver patent define an invention different and patentably distinguishable from the processes claimed and disclosed in the first issued Silver patent, then the process claims of the second patent are totally invalid, because this would constitute an unlawful extension of the monopoly granted by the first patent, and which is commonly called by the Courts "double patenting".

The authorities are clear on this point and the double patenting rule and reasons therefor are clearly set forth in the following authorities:

In re Thompson (C.C.P.A. Dec. 19, 1932), 62 Fed. (2d) 90:

"Much of appellant's argument is devoted to the contention that, since his applications were copending, applicant's prior process patent is 'not a legal reference' against his apparatus application, and numerous authorities are cited which are claimed to support the argument, such as In re Lawrence Byck, 48 F. (2d) 665, 18 C.C.P.A. 1208; Miller v. Eagle Mfg. Co., 151 U.S. 186, 14 S.Ct. 310, 315, 38 L.Ed. 121; Kaplan v. Robertson (D.C.) 50 F. (2d) 617; and others.

"The purport of the holdings in all those cases, sought to be made here applicable, is expressed, according to appellant's brief, in the Miller Case, supra,

in the following language: '* * * where the second patent covers matters described in the prior patent, essentially distinct and separable from the invention covered thereby, and claims made thereunder, its validity may be sustained.'

"That this principle of law is sound and that it is generally followed by the courts is, we think, beyond dispute, provided always that the claims of the second patent or application show an inventive advance over the claims already granted in the first patent. The rule announced by the Court of Appeals of the District of Columbia in the case of In re Isherwood, 46 App. D. C. 507, has been referred to and applied by this court in many cases. In re Fischer, 57 F.(2d) 369, 19 C.C.P.A. 1077, and cases cited therein. A declaration of the court in the Isherwood Case, supra, reads: 'The patentability of the present claims may be decided on appellant's patent by the same rules which would be applied to test their anticipation by a patent to another.'

"While, therefore, appellant's process patent may not be a 'legal reference' in the technical sense that a patent timely granted to another would be, the same rule is to be followed, and, if appellant has been already granted a process patent which legitimately covers the subject-matter of the claims at issue, he is not, under the authorities, entitled to a second patent thereon, even though it be expressed in terms of apparatus claims.

"There are many cases in which patents issue upon separate applications for both a process and an apparatus for carrying out the process, but in all such cases the claims must be for separate and distinct inventions. If all that is inventive be expressed in either the process application or the apparatus ap-

plication, then a grant of two patents is not proper, since the result would be double patenting. In re Fischer, supra.

"The sole question, therefore, as to appellant's claims 5 and 7, is whether they present anything inventive over his patent claims. * * *"

General Motors Corporation, et al. v. Rubsam Corporation, et al. (C.C.A. 6, 1933), 65 Fed. (2d) 217:

"* * * As was held in Saranac Automatic Machine Corp. v. Wirebounds Patents Co., 282 U. S. 704, 51 S. Ct. 232, 75 L.Ed. 634, the monopoly of an earlier patent may not be extended by subsequent patents which disclose the invention of the earlier patent, and, in addition, merely mechanical improvements which do not in themselves involve invention."

In re Peiler (C.C.P.A. April 4, 1932), 56 Fed. (2d) 878:

"The appellant, having disclosed or claimed no matter patentably distinct from that claimed in his existing patent, cannot have a second patent upon the same invention. In re Robinson, 48 F.(2d) 931, 18 C.C.P.A. 1271; In re Laughlin, 48 F.(2d) 921, 18 C.C.P.A. 1239; In re Byck, 48 F.(2d) 665, 18 C.C.P.A. 1208; In re Hargraves, 53 F.(2d) 900, 19 C.C.P.A. (Patent)—."

See, also:

In re Fischer (C.C.P.A. April 4, 1932), 57 Fed. (2d) 369;

In re Gollmar (C.C.P.A. Dec. 23, 1933), 67 Fed. (2d) 907;

Application of Ward (C.C.P.A. July 3, 1945), 150 Fed. (2d) 436.

One of the underlying reasons is that whatever the patentee did not claim in his first patent, but which was disclosed therein, is dedicated to the public. The early basis of the rule of the above cases is the leading case of *Miller v. Eagle Mfg.*, 151 U.S. 186, 198 (1894), 38 L. Ed. 121, 14 S. Ct. 310, wherein the Court stated as follows:

> "In Odiorne v. Nail Factory, 2 Mason, 28, the reason for the rule * * * was stated to be that * * * a new and later patent for the same invention would operate to extend or prolong the monopoly beyond the period allowed by law."

When the process claims 7, 9, 10 and 11 of the second Silver patent are compared with the disclosure and claims of the first Silver patent, it is obvious, first, that the two are directed to exactly the same process. Second, that the process claims of the second Silver patent define nothing different or anything which constitutes an invention over the process claims issued in the first Silver patent. The difference between the two sets of process claims of both patents was succinctly stated by counsel to the District Court, and we adopt such a statement as follows:

> "Claim 7 (of the second patent), which is typical of the process claims in this patent, is also of interest, but it will not be set forth in full here because it will be simpler to consider it as including all of the steps of claim 1 of the first patent, plus the improvement step of—
>
> " 'subjecting said liquid to a screening action at a point adjacent to but below the liquid level before the liquid passes from said treatment stage to the next stage along its countercurrent course.'
>
> "In other words, this claim is a process claim covering the same steps as those constituting the process

of the first patent, except that it is limited to the new and improved feature of draining below the liquid level, as illustrated in Figure 5 of the patent."

Therefore, obviously, the only difference between the processes claimed in the two patents is the point at which the liquid is screened before it discharges from one cell to another. This difference is not a difference in substance but merely a difference in words, as Mr. Silver so aptly pointed out in his testimony at Tr. 105-106, where he testified on this exact point as follows:

"Q. There is practically no difference in point of elevation of the discharge of the juice from a cell in the first and second patents, is there? A. That is right.

Q. The only difference is that in one you get a larger screen area to effect screening? A. In the second.

Q. In the second yes, and in the second patent you have foranimous trays which aids in the drainage? A. That is right.

Q. And that is the only difference between the first patent and the second patent, material difference? A. The only material difference."

In view of that testimony, it cannot be seriously contended that the process claims of the second patent can be held as patentably distinguishing from the process disclosed in and claimed by the first patent. It is true that in claim 11, for example, there is an additional limitation over claim 7, which adds to claim 7 that the liquid moves at a different rate than the divided material along the course of concurrent movement of said materials. There is no proof in the record that this is the case in the

Morton battery, but even if it is so, this step added nothing patentable to the claims as was so aptly expressed by the Patent Office examiner (Exhibit D, page 92):

> "Since the rate of flow is not critical the recitation in claim 45 of 'a different rate' does not constitute a patentable limitation."

We strenuously urge that the process claims of the second Silver patent are invalid and non-infringed by the Morton battery for the reasons above set forth.

We also urge that if the process claims of the second patent in suit can be interpreted so as to include the Morton battery and its functions, then they include to the same extent the batteries and processes of the prior art and are invalid, as set forth herein in connection with the process claims of the first Silver patent. To hold otherwise would be to permit Silver at this late date to recapture as a monopoly part of the public domain dedicated to the public by the prior art patents.

5. The Court of Appeals improperly held Silver's claims to be valid combination claims.

Pertinent to this point, the Court below in its opinion, 98 USPQ 240, at page 243, stated as follows:

> "He (Silver) readily concedes that all the elements of his combination were known to the art long prior to his inventions but contends that his combination is new. The law is that a combination of old elements is patentable if it accomplished either a new or an old result, in a more facile, economical and efficient way in a particular environment which presented peculiar and difficult problems."

This statement of the law is too broad for it disregards the requirement that to be patentable, the assemblage of elements in question, in addition to constituting a combination of elements rather than an aggregation thereof, must be a new combination. Negatively expressed, the combination to be patentable must not be an *exhausted* combination.

As pointed out in the Petition, this Court in *Bassick Mfg. Co. v. R. M. Hollingshead Co.*, 56 S. Ct. 787, page 791, made the following statement:

> "* * * Secondly, he invented an improved form of coupler to be attached to the end of the hose leading from the pump to the fitting. Instead of patenting this, as he did the pin fitting, he claimed a combination of pump, hose-coupler, and pin fitting, and embodied in the combination his improved form of coupler. No. 1,307,734, the patent in suit; claims 1-6, 8, and 10. He further claimed the combination between his patented pin fitting and any form of grease gun whether that claimed in his patent or unpatented and old in the art. Claims 14 and 15. *The question then is whether, by this method, the patentee, by improving one element of an old combination whose construction and operation is otherwise unchanged, may, in effect, repatent the old combination by reclaiming it with the improved element substituted for the old element. That this cannot be done is shown by numerous cases in this and other federal courts.*"

As abundantly appears from the facts recited in the petition and the analysis of the prior art structures made in the Appendix I hereto, there was nothing new at the time that Silver made his alleged inventions in a counter-

current-concurrent diffusing system involving the use of a diffusing battery including a plurality of contiguous cells and wherein each cell is provided with means for moving a mixture of cossettes and juice from one end to the other, with means at the discharge end of the cell for effecting the separation of the juice and cossettes, with means for transferring the drained cossettes to the intake end of the next succeeding cell and with means for delivering the juice from the discharge end of the cell in question to the intake end of the preceding cell. The prior art discloses various methods of effecting the separation of the cossettes and juice and various methods for transferring these components respectively into the intake end of the succeeding cell and the intake end of the preceding cell. The fact that Silver may have disclosed a different type of transfer mechanism and a different type of draining mechanism in no way alters the combination. It is still the same old combination disclosed in the prior art references and the selfsame process of diffusion is effected therein. If Silver has done anything, it is to make an improvement only in isolated elements of the combination. It is, therefore, submitted that Silver, by virtue of these alleged improved elements, has attempted to repatent the combinations shown to be exhausted by the prior art references and that the Court of Appeals, in holding that Silver's patents cover a new combination, has done so in direct conflict with the decisions of this Court and its own decisions.

The Court below, in supporting its statement of the law,

> "The law is that a combination of old elements is patentable if it accomplishes either a new or an old

> result, 'in a more facile, economical and efficient way in the particular environment which presented peculiar and difficult problems.' " (Tr. 361-2, USPQ 240, p. 243)

cites a number of cases in support thereof. However, a careful review of these cases shows that they are not dealing with the question of exhausted combinations but rather with a situation wherein it was assumed that either old or new elements had been brought together into a *new combination.* The last case cited by the Court, *A & P Tea Co. v. Supermarket Corp.,* 340 U.S. 147, as a matter of fact deals with the distinction between combinations and aggregations but not with exhausted combinations. Our contention here is not that the elements of the Silver diffuser constitute an aggregation of elements, each of which performs its old function and which together do not coact to produce a new and unitary result, but rather that the combination into which these elements have been brought is an old or exhausted combination.

6. The Morton machine and process does not infringe any of the claims of either of the Silver patents.

The facts covering this point have been set forth in the Petition beginning with page 24 and a detailed analysis and comparison of the Morton structure and process with those of the prior art references as well as with the Silver claims appears in the appendix hereto.

It is submitted that this analysis and comparison amply support petitioner's position that the Silver claims cannot be read on the Morton structure and process but if this Court holds that they can, then by the same token and

using the same yardstick of equivalents, Silver's claims are readable on the prior art references and are, therefore, anticipated and should be held invalid.

7. Prior art patents are good as anticipations even though never put into commercial use.

The careful reading of the opinion of the Court of Appeals and that of the trial Court indicates that both Courts felt loathe to use the prior art patents for the purpose of anticipating the claims of the Silver patents largely for the reason that none of these prior art patents had gone into commercial success.

It is submitted that prior art patents, regardless of whether or not they have gone into commercial success, should always be used where pertinent for the purpose of anticipation. As stated by Judge Learned Hand, speaking for the Court of Appeals in *In re Frank B. Killian & Co. v. Allied Latex Corp.*, 89 USPQ 219, at page 221:

> "* * * The phrase, paper patent,' is a mere bit of rhetoric, usually employed as a makeweight by judges who wish to support the patent in suit, but are embarrassed by a reference, of an escape from which they are not too confident. It is a meaningless platitude."

While neither the Court of Appeals nor the trial Court in their decisions used the phrase "paper patent," both Courts appear to have considered the prior art as falling within this category. Most of the prior art patents heretofore discussed have been within the public domain for some years and the effect of the judgment of the lower Court is to regrant to Silver the disclosures therein contained.

8. The commercial success of the machine shown in the patents is unimpressive in this record and even if the contrary were true, commercial success cannot be substituted for invention.

The pertinent facts concerning the commercial success of the Silver machine and process have been set forth in the Petition beginning with page 43.

Silver sold a total of 14 chain type diffusers between 1942 and 1948 and thereafter sold only his scroll type which was developed in 1948. As set forth in the Petition, Mr. Silver testified that as a result of having developed his scroll type of cell, he saw no reason why he should sell any more of the chain type. This limited number of sales in a fairly large and important industry during the period of six years, coupled with Mr. Silver's statement that after the development of his scroll type of cell he would no longer sell the chain type, hardly supports Mr. Silver's contention for great commercial success. Here we would again like to call the Court's attention to the fact that contrary to the suggestion of the trial Court and the Court of Appeals, the evidence amply shows that Mr. Morton developed his horizontal scroll type of cell long prior to the development by Mr. Silver of the same type of cell. It may be that Mr. Morton had some early knowledge concerning Mr. Silver's chain type of battery, but that would hardly justify the inference made by the Court below to the effect that Mr. Morton's unit was developed only after knowledge of Mr. Silver's scroll type of cell.

In any event, even if the record is considered as proving commercial success, it has been widely held that com-

mercial success cannot be substituted for invention. See the following cases:

Shaffer v. Armer, et al. (C.A. 10, Aug. 11, 1950), 86 USPQ 427, 431:

"• • • But no amount of commercial success can bridge the gap between mechanical skill and invention. Dow Chemical Co. v. Halliburton Co., 324 U.S. 320, 330 (64 USPQ 412, 416); Jungerson v. Ostby and Barton Co., 335 U.S. 560, 567 (80 USPQ 32, 24-35)."

The writ should issue.

Dated, San Francisco, California,
October 12, 1953.

Respectfully submitted,
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DEC 18 1953
HAROLD B. WILLEY, C

IN THE

SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 1953

NO. 425

OLIVER UNITED FILTERS, INCORPORATED,
Petitioner,

vs.

HAROLD F. SILVER (an individual),
Respondent.

BRIEF FOR RESPONDENT IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI.

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BRIEF FOR RESPONDENT IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI.

OPINIONS BELOW.

The opinion of the District Court is reported in 103 Fed. Sup. 935.*

The opinion of the Court of Appeals for the Tenth Circuit (R. 357) is reported in 206 Fed. (2d) 658.

JURISDICTION.

The jurisdiction is invoked by petitioner under Section 28 U.S.C. 1254 (1).

*Respondent regrets that for some reason unknown to him, the decision of the District Court is not included in the printed record, although, the record does include the findings of fact and conclusions of law (R. 25-35). As the careful and detailed consideration given to the facts by the trial judge is reflected in the opinion itself, the Court's attention is respectfully invited to the published decision.

PRELIMINARY STATEMENT.

This is an ordinary patent case involving only factual issues bearing on validity and infringement. There are no other issues.

There are two patents, Nos. 2,390,131 and 2,468,720, both of which were granted to respondent, Harold F. Silver, on inventions made by him. Patent No. 2,390,131 relates to a process for diffusing sugar from sugar beets, and Patent No. 2,468,720, which was copending in the Patent Office with the application for the first patent, relates to a machine for diffusing sugar from sugar beets, and in addition a certain improvement on the process of the first patent.*

At the present time, there is no conflict of decisions among the Circuit Courts and the record affirmatively shows that the sugar beet industry is not confined to the Tenth Judicial Circuit. Petitioner's infringing machine (referred to herein as "the Morton Battery"), was made and installed for use in the State of California (R. 76-77) and respondent, Silver, manufactured and sold his machine in Colorado (R. 50-51) and installed the same for use in various States throughout several Judicial Districts.

All arguments on the merits which petitioner now makes were fully briefed and argued by it both before Judge Knous in the District Court and before the Court of Appeals for the Tenth Circuit.

The Circuit Court approved Judge Knous' finding that Silver—

> "had given to the beet sugar industry, for the first time in its history, a continuous diffuser which works."

---

*Patent No. 2,390,131 will be referred to herein as the "first patent", and Patent No. 2,468,720 will be referred to herein as the "second patent".

and also that—

> "if after almost one hundred years all the prior efforts to overcome the difficulties of diffusion in the industry failed, it cannot be said that Silver's efforts were only the result of mechanical skill in assembling known elements." (R. 364-365)

The Circuit Court also approved Judge Knous' finding that Silver's patents disclose—

> "new combinations in the process and apparatus which employ a new mode of operation to produce a new and improved result over anything existing in the prior art." (R. 365)

By concurrent findings, it was also established that Silver's outstanding inventions were copied by petitioner. (R. 33-34, 368)

These findings are supported by the voluminous record, including highly technical testimony by practical experts in the art called by both parties. They relate to the chemical and physical behavior of large masses of beet stock submerged in diffusion baths while subjected to mechanical handling procedures. The problems not only involved the maintenance of concentration relationships between the sugar inside and outside of the beet stock, but the physical disposition and character of the beet stock itself, with avoidance of matting and the preservation of the undamaged cellular structure as is required to overcome the tendency to dam up and flood the machinery, as well as to provide good diffusion relationships between the beet stock and its surrounding liquid. (R. 49, 54-65)

THE PATENT LAW ISSUES.

Not one of the nine questions presented by petitioner on patent issues (Petition p. 46, 47; also petitioner's brief p. 81, 82) merits the attention of this Court.

All four judges of both lower courts found that Silver invented a novel beet diffusing process and machine, patentable over all prior art, and that petitioner's Morton Battery infringed the second patent, and its use infringed both the first and second patents. (R. 34-35, 367)

Furthermore, both lower courts agreed that claims 1, 2, 4, 6, 8, 11, 12, and 13 of Silver patent No. 2,390,131, and claims 2, 3, 4, 6, 7, 9, 10 and 11 of Silver patent No. 2,468,720 were valid and infringed. (R. 34, 368)

NO QUESTION OF PUBLIC INTEREST IS PRESENTED.

All issues of invention, anticipation, and infringement were settled by concurrent findings of the lower courts. Petitioner's own summary (Petition p. 46-51, incl.) reveals that anticipation and infringement are the basic issues on which review is sought.

Such a controversy presents no questions having the general public interest which warrant the grant of a writ of certiorari.

STATEMENT OF FACTS.

The concurrent and detail findings of the District Court and the Court of Appeals on the patent issues establish that:

1. Silver invented the first continuous diffusing process and machine for treating sugar beets that actually worked, and that he did so notwithstanding the unsuccessful and numerous efforts of the prior art workers extending back for a period of almost one hundred years.
2. The novel features of the Silver inventions were properly claimed, and the patents are valid.

3. The novel process and machine invented by Silver were deliberately appropriated by petitioner, and the essential features of the two inventions, respectively, were embodied in the Morton Battery and the use thereof.

In large measure, the significant portions of the findings of the two lower courts resulted from careful analysis and appraisal of an extensive and technical record, and nowhere have such findings been adequately dealt with or explained by petitioner.

We shall discuss the record on the above three points in the stated order and shall point out that petitioner is seeking nothing more than a further review of factual matters which already have been completely and properly disposed of.

We shall further show that petitioner does not address itself to the true issues presented by the combination patents here under consideration, but, rather, seeks to dissect the inventions into their elemental parts and to defeat the patents element by element. In the published decision of the District Court, Judge Knous said (p. 938):

> "• • • Oliver dissects Silver's inventions into their elemental parts and proceeds to attack them piecemeal on the basis that such elemental parts, standing alone and separately, are not in themselves new."

1. Silver Made Meritorious Inventions which Supplied a Long Felt Want in the Art, and which were not Anticipated by the Prior Art.

A brief review of the concurrent findings of the lower courts with respect to the origin of Silver's inventions will be of assistance in understanding their nature.

Prior to Silver's work, the only commercially successful process and apparatus known to the industry was the "Robert Battery". That battery is a batch-type apparatus consisting of a series of separate but connected stationary tanks into which the beet stock or cossettes are introduced. Although reliable, this type of battery is cumbersome and comparatively inefficient. It requires relatively a large number of men to operate it and the water content of the juice is high. Its long use, however, had demonstrated to the prior workers the value of a countercurrent system of flow of solids and liquid in conjunction with mechanical handling procedures which did not damage the cossettes or impair the diffusing activity. The problem remained, however, as to how the cossettes could be handled mechanically for *continuous* treatment, with the elimination of the disadvantages of batch treatment and the attendant uneconomic consequences in efficiencies of high labor costs and high fuel consumption required for the removal of the high water content of the juice. (R. 27-28, 359-360)

The first efforts of the prior workers were those attempting mechanical conveyance of cossettes and movement of the juice through a straight countercurrent system. Due to the pulpy and gelatinous nature of the beet stock, these efforts were unsuccessful as the stock would dam up the equipment, prevent countercurrent movement of the juice, and flood the machine. Many workers concluded that the problem of damming and flooding presented by the countercurrent machine was impossible of solution, and though efforts to succeed in that direction have continued, it was proposed many years ago to modify the flow to provide a countercurrent passage of the cossettes and juice through the system as a whole, but to alter the old practice to the extent of providing in conjunction therewith a concurrent flow of stock and juice in each separate cell or tank, re-

spectively. Efforts to provide a satisfactory countercurrent-concurrent process likewise failed, however, not because the mechanical handling was not satisfactory nor that damming and flooding were not prevented, but because of subtle effects produced by such flow systems upon the diffusing activity. Such systems inherently involved in the transfer of cossettes from one cell to the next, the deposit of associated juice of much higher concentration than that of the liquid into which the cossettes are deposited. This feature defeated all attempts of prior workers with such persistence that the workers who sought a solution to the problem were prompted to abandon the countercurrent-concurrent principle and direct their efforts once more to the straight countercurrent system as the one which in all probability offered the greatest hope of success. (R. 28, 360)

In summarizing the findings of the District Court, the Circuit Court made the following statement on the prior state of the art:

> "When Silver entered the field, the 'Robert Battery' was being used exclusively in the United States and Canada. It is the only method in use today except in those factories which are now equipped with the Silver machine and two which use the accused machine. It had been the predominating view of technical workers that any countercurrent system would not succeed. The straight countercurrent method presented a problem of clogging and mutilation of the cossettes which could not be overcome. The countercurrent-concurrent system eliminated the clogging difficulties but created other deficiencies. The density of the cossettes varies, some floated, and some sank in the fluid. The fact that the cossettes and juice flowed concurrently resulted in a less effective washing and inefficient diffusion. When transferred from one cell to another the cossettes carried with them a substantial quantity of juice which was of a higher concentration of sugar than that

of the juice in the cell into which they were being transferred and the equality of sugar content in the beets and juice tended to defeat diffusion. Some inventors sought unsuccessfully to overcome this with presses and other methods of enforced separation.[3] After many attempts, the problem of producing a commercially successful continuous diffusion system remained wholly unsolved" (R. 360). (In the decision, the footnote identified five of the prior art patents.)

Silver's Inventions: It was at this point in the development of the art that Silver entered the field and solved the problem. He first had to choose between the two types of systems and decide whether he would undertake to perfect a straight countercurrent system or a countercurrent-concurrent system. Upon analyzing the defects of both, he detected and analyzed the major difficulty involved in the latter, and then proceeded to devise a countercurrent-concurrent system that actually worked on a highly successful basis. (R. 44)

In concurrence with the District Court, the Circuit Court described Silver's inventions as follows:

> "We come then to the question of what Silver has contributed to the art that constitutes patentable inventions. He first undertook to analyze and discover why the countercurrent-concurrent type of diffusion system had not been successful. The claimed patentability lies in the method or process by which the beet stock is made to move in the alternate downward and upward course of travel to cause an enforced submergence in the countercurrent of the juice in a manner to effect an alternate washing, draining, and transfer from one cell to the next without mutilating the cossettes as they move through the course of treatment. The application of force or pressure to the cossettes is avoided so that they remain unmutilated and in good condition for diffusion activity and thereby retain

most of the impurities. In this draining process the juice of high concentration, including the diffusion resistant surface films found on the cossettes, is removed and it returns to the cell of relatively high juice concentration from which it was taken. The district court found that the enforced submergence of the cossettes from above the diffusion liquid with a downward and upward movement while submerged, followed by a drainage of the liquid in that cell before transfer to the next cell made Silver's machine different from those disclosed by the prior art.[4]" (R. 362) (In the decision, the footnote quoted Findings of Fact of the lower court 14 to 17, inclusive (R. 29, 30).)

Commercial Success: The patented inventions have been highly successful and have been extensively adopted by the sugar beet industry (R. 30, 364).

> "After making his inventions, Silver manufactured and sold to the beet sugar producers in the United States and Canada, continuous diffusion devices which were highly successful in actual practice and which were made in accordance with the disclosures and claims of his said two patents. The devices so made and sold employed the processes defined by the process claims in suit of said two patents No. 2,390,131 and No. 2,468,720, and the devices so made and sold embodied the structural elements constituting the combination defined by the apparatus claims in suit of said Letters Patent No. 2,468,720. Silver installed sixteen commercial units at an average cost of $250,000.00 each, each of which has effected great savings in the cost of operation and reduction in the loss of sugar." (Finding No. 18, R. 30)

The Circuit Court, in recognition of commercial success, stated as follows:

> "The parties here concede that the problem confronting the workers in the art was difficult and that the need

of the device long existed. The fact that Silver has contributed substantially to the solution of the problem is inescapable. He has given to the beet sugar industry, for the first time in its history, a continuous diffuser which works. Surely, if after almost one hundred years all the prior efforts to overcome the difficulties of diffusion in the industry failed, it cannot be said that Silver's efforts were only the result of mechanical skill in assembling known elements." (R. 364-365)

2. The Patents Are Valid and Have Been Properly Construed.

At the trial, the petitioner strenuously insisted that the respondent's inventions were restricted to vertically disposed U-shaped cells of the type illustrated in the drawings of the patents. In petitioner's attempt to escape liability as an infringer, it showed that the accused Morton Battery had cells of horizontal disposition and, as horizontally disposed cells were old in the prior art, it contended, first, that Silver's patents were restricted by file wrapper estoppel to vertically disposed cells, and, secondly, that on that account the Morton Battery followed the prior art and did not embody either of Silver's inventions.

There Is No File Wrapper Estoppel: In passing upon this point, the District Court in its decision stated:

> "A careful study of the full text of the statement in the file wrapper, which is too lengthy to include in this memorandum, convinces the Court that the words 'alternate upward and downward courses', stressed by Oliver, when used in context and considered in relation to the remainder of the statement, refers to the upward and downward coursing of the cossettes and liquid as a procedural step and were not intended to refer to the structural features of the apparatus in which the process was to be carried on. This construction is supported by the circumstance that in his first patent Silver specifically states that his process

'also may be performed in cells disposed horizontally' as well as in the vertical cells illustrated.

"In addition, when it is considered that prior art patents showed constructions having cells both horizontally and vertically disposed, it cannot well be said that the Patent Office did not allow Silver's claims on any assumption that the claims had to be limited to vertically disposed cells in order to avoid the prior art." (District Court's Decision p. 941)

The same finding is included in the record (Finding No. 27, R. 32-33). In concurring, the Circuit Court said:

"It seems quite clear that this is not what the patent office had in mind when the claims were rejected, as such cells and conveyors were disclosed in the Olier, Rak and Krauss patents, and if it had been the intention of Silver and the patent office to limit the process to vertically disposed cells, the claim would have been disallowed because of the teachings of those patents.

"The language cited is found in the process claims and refers to the movement of the cossettes through the diffusion fluid in each stage of the process. Its reference is not to any particular mechanism or disposition of mechanism. In his first patent specification Silver said in referring to the vertical disposition of the cells, 'While this is a preferred arrangement, it will be understood that the process also may be performed in cells disposed horizontally with a positive or gravity circulation of liquid employed'." (R. 367)

There Is No Double Patenting: In both courts below, the petitioner strenuously urged that the process claims of the second patent were invalid for double patenting. In concurring with the District Court in its finding, the Circuit Court said:

"The application for Patent No. 2,468,720 was pending when Patent No. 2,390,131 was issued. If the second

application or patent discloses or claims matters distinct from and not included in the first patent or application, it is patentable even though the applications are co-pending. In other words, if the second Silver patent defines a process or apparatus different from the discoveries of the first patent, it does not constitute double patenting even though it relates to the same invention." (R. 368-369)

Inventions As Claimed Avoid the Prior Art: By concurrent decisions, the lower courts have held that the Silver inventions are valid combinations and that whereas the steps of the processes and the elements of the machine may be found separately in different patents, when considered as a whole the combinations claimed are clearly patentable. In confirming the findings of the District Court, the Circuit Court summarized the relationship of the claimed inventions to the prior art as follows:

"Oliver cites a number of patents which it is urged anticipated Silver's inventions. We need not discuss the prior art patents in detail as none of them taught a combination of steps which solved the problem of continuous diffusion. This defense is limited to eight patents, namely, 755,546 (U.S.) Rak, March 22, 1904; 1,006,311 (U.S.) Steffen, October 17, 1911; 1,492,656 (U.S.) Turrentine, May 6, 1924; 1,523,277 (U.S.) Olier, January 13, 1925; 510,642, (French) Dobler, September 10, 1920; 592,983 (French) Gazagne, May 13, 1925; 558,547 (German) Neufeldt, September 8, 1932; 157,710 (Austrian) Krauss, January 10, 1940. We agree with the trial court that the claims of the two Silver patents in suit were not anticipated by any one or more of these prior art patents. Rak, Steffen, Turrentine, Neufeldt and Krauss provide for a countercurrent-concurrent flow system but each employs an enforced separation of juice from the cossettes between each treatment stage with the use of presses, centrifuges or vacuum filters. These processes have a tendency to destroy the cellular structure

of the cossettes and to defeat diffusion. Gazagne shows a countercurrent-concurrent system with a series of troughs arranged one above the other. The cossettes start at the top and pass downwardly through the troughs by gravity. The juice is forced upward by ejectors. There is no drainage of the cossettes as contemplated by the Silver machine, and the ejectors would cause foaming which would defeat the operation. The Olier and Dobler patents show straight countercurrent flow systems and do not teach the countercurrent-concurrent method disclosed in the Silver machine. No successful machine or apparatus was ever manufactured under these patents and no worker in the prior art before Silver, ever devised a successful combination of the teachings of the prior art. Before declaring Silver's claims patentable, the patent office gave close and careful scrutiny to all the cited patents except Dobler, and recognized the principles which they taught and which were used by Silver in his combination. This creates a presumption of priority and novelty" (R. 365-66).

Not one of the prior art patents achieved the combination of the Silver inventions. Some showed only straight countercurrent systems and whereas others disclosed countercurrent-concurrent processes and machines, each of them failed to understand and solve the problem. The latter taught the use of either mechanical handling means productive of damaged cossettes and consequent damming and flooding of the machine, or commingling of juice and cossettes through their respective flow paths, or foaming of juice, which destroyed proper diffusion relationships. With the exception of Gazagne, and Figure 1 of Steffen, the countercurrent-concurrent systems all employed pressure devices to process the pulp at the point of transfer between cells. The two exceptions failed adequately to separate the juice and cossettes. Pressure treatments are not employed by the petitioner. Mr. Shafor, petitioner's

expert, testified that such treatments render the cossettes unfit for subsequent diffusion treatment (R. 243-47).

Certain of the prior patents showing countercurrent-concurrent systems also recirculated the juice and thus evidenced a complete lack of understanding of the requirements for satisfactory diffusion activity (Tab. 13, Ol. 8A Steffen).

All of the prior art patents, except Dobler, were cited by the Patent Office, and in referring to it, petitioner's expert witness, Mr. Shafor, said it should be "thrown out" as a reference because it does not disclose a countercurrent-concurrent system (R. 243). Mr. Shafor also said that he would "throw out" all other prior patents showing straight countercurrent systems insofar as the process is concerned, and all thereof that show "pulp presses" as references against the apparatus (R. 243-244). By this testimony, petitioner's own expert eliminated the patents to Rak, Neufeldt, Steffen (Fig. 2), Olier and Dobler.

3. The Novel Beet Diffusing Process and Machine Invented by Silver were Deliberately Appropriated by Petitioner.

In concurring with the District Court in finding that the combinations constituting the Silver inventions had been appropriated by petitioner, the Circuit Court summarized the evidence as follows:

> "We are not impressed with the contention that the Morton Battery follows the prior art and not the teachings of the Silver machine. The accused machine was designed by Whipple Vincent Morton who had been in the employ of Spreckles Sugar Company in California for many years. This battery consists of a series of horizontally disposed cells through which the cossettes and juice are moved in a countercurrent-concurrent flow by means of a scroll conveyor. At the end of each cell the cossettes are lifted out of the

juice and transferred to the next cell by means of a fork-like tool which rotates on the scroll shaft. The juice is screened at the end of the cell into a juice box and flows on from there by gravity to the next treatment stage. This screening and lifting of the cossettes from the juice for transfer provides the same effective drainage as the original Silver mechanism.[6] It is true that Morton, as did Silver, followed the prior art in the structural design of his battery as to different elements in a combination, but in addition each step in his process can be found in Silver's claims. He has eliminated vacuum filters and centrifuge or pulp presses between cells. He has established a method wherein exactly the same draining action before the transfer of the cossettes from cell to cell, occurs as in the Silver Battery. His process, like the Silver method, eliminated the clogging and injury to the cossettes which were the principal causes for the failure of the previous countercurrent batteries. He found in the Silver method a successful way to drain cossettes after each treatment and to transfer the juice from one cell to another to accomplish proper diffusion. The transfer of the cossettes from one cell to another and the rotation of the open scroll mechanism in the Morton machine effected an enforced submergence of the cossettes and an alternate upward and downward movement of them in the juice which furnished the necessary washing for effective diffusion. For many years prior to the construction of the accused machine, Morton, with all the prior art before him, had attempted to devise a successful continuous diffusion system and had obtained a patent[7] for such a machine which was not commercially successful. It was not until after he knew of Silver's inventions and was aware of their functional and commercial success that he was able to produce a successful battery. His battery performs the same work in substantially the same manner and accomplishes the same results as the Silver battery. This constitutes infringement." (R. 367-368)

It is significant that Morton, who designed petitioner's battery, on his earlier effort to produce a machine, avoided the countercurrent-concurrent system but, rather, undertook to make workable the straight countercurrent type of mechanism. (See footnote 2, R. 360; also footnote 7, R. 368.) Furthermore, Silver himself produced the scroll type of machine before Morton designed the Morton Battery (R. 74-76, 119). It is also significant that Morton did not succeed in devising a commercial machine until after he had knowledge of Silver's successful inventions (R. 331).

ARGUMENT.

I. PETITIONER HAS SHOWN NO REASONS SUFFICIENT TO WARRANT ISSUANCE OF THE WRIT.

The true measure of this controversy is factual. Silver made inventions of great merit and petitioner copied them. Petitioner now seeks certiorari to have the basic issues of invention, anticipation, and infringement retried by this Court after those issues have been established by concurrent findings of two lower courts. Even the attacked rulings of the Circuit Court construing the patents in suit are founded upon the factual context of these inventions and these patents.

The case presented comes squarely within the ruling of this Court in *General Talking Pictures Corporation* v. *Western Electric Co.*, 304 U.S. 175-178-179 (1938) where it was said:

> "Granting of the writ would not be warranted merely to review the evidence or inferences drawn from it. * * * Moreover, the decision on this point rests on concurrent findings. They are not to be disturbed unless plainly without support. * * * There is evidence to support them. Nor would the writ be granted to review questions of anticipation and invention that petitioner argues, for as to them, there is no conflict between decisions of circuit courts of appeals."

See also *Continental Paper Bag Co.* v. *Eastern Paper Bag Co.*, 210 U.S. 405, 416 (1908)

Moreover, the present controversy does not possess the public interest which this Court has invariably required in its sparing exercise of the certiorari jurisdiction. This

jurisdiction is granted, as stated by this Court in *Magnum Import Company, Inc.* v. *Coty*, 262 U.S. 159, 163 (1923):

> "* * * to bring up cases involving questions of importance which it is in the public interest to have decided by this court of last resort. The jurisdiction was not conferred upon this Court merely to give the defeated party in the Circuit Court of Appeals another hearing."

All of the patent law issues reduce, upon examination, to mere factual disputes or narrow points of construction having no interest beyond the boundaries of this case. The very number of the questions on which review is sought shows that petitioner has confused the public interest with its own.

Petitioner here seeks to create a large public interest by pointing to the success of the inventions while later in its argument it characterizes the respondent's sales as "unimpressive" (Petitioner's brief 116).

II. POINT-BY-POINT REFUTATION OF REASONS RELIED ON BY PETITIONER.

1.

Refutation of Petitioner's First Reason (Petitioner's brief 84-86); There is no Conflict in Circuit Court Decisions and no Exceptional Basis for Certiorari: As a general rule, this Court will not grant certiorari to review a patent case unless there is a conflict in the decisions of the Circuit Courts of Appeal. No such conflict exists in this case. Petitioner argues, however, that the circumstances of this case bring it within a limited and rarely implemented exception.

As stated by this Court in *Mackay Radio & Telegraph Co.* v. *Radio Corporation of America*, 306 U.S. 86 (1939)

the requisites of this exception are that—

1. The questions presented must be of real importance to the public as distinguished from the parties;
2. Validity and infringement of the patent must be doubtful; and
3. Future litigation in other Circuits must be improbable.

None of these three requisites has been established by petitioner.

Lack of Public Importance: Petitioner has completely failed to show any issue of public importance. Here is a controversy having only interest to the parties and involving only validity and infringement questions. This case falls in the category of all other patent cases where validity and infringement are the only questions involved. The respondent is not a supplier who dominates an industry, but, rather, is an inventor who only recently took it upon himself to solve a problem in the sugar beet field. He stands in the position of the ordinary inventor who seeks the reward afforded by the Patent System for his ingenuity. No public interest question can be found in these facts.

Validity and Infringement of Patents are not Doubtful: Petitioner seeks certiorari as to the process and machine claims of the two Silver patents which were unanimously held valid and infringed by all four judges of the two courts which passed upon them. The care with which the lower courts considered the evidence is apparent from a consideration of their decisions and findings. Their findings conclusively show that the fact questions have been resolved against the petitioner, and that petitioner's arguments and

contentions are unsound and without equity. Nowhere in the record is any doubt evidenced or expressed in regard to the conclusions on which the decisions of the lower courts rest.

The commercial success of Silver's inventions, as evidenced by the record and the fact that he was the first to produce a successful process and machine after a period of many years of trial and failure, support the conclusion that he has made meritorious inventions and that his patents are valid.

The finding of infringement is also made stronger by the fact that Morton himself failed to solve the problem until after he knew of Silver's successful inventions (R. 331).

Litigation in Other Circuits Is not Improbable: Petitioner contends that the possibility of future litigation is remote (Petitioner's brief, pp. 84-86) but the cases on which it relies, with one exception, involves concentration in a single circuit of the entire industry to which the patent related. The industry in the *Mackay Radio & Telegraph Co. Case* was "the business of world wide public radio communication" (see 306 U.S. at p. 89) in which petitioner was respondent's sole competitor.

These cases have no application to the entirely different situation existing in the present case. No such concentration of the sugar beet industry or the sugar beet machinery industry—geographical or otherwise—is established by petitioner's record citations (Petitioner's brief p. 48). On the contrary, the record affirmatively shows that the sugar beet industry is distributed throughout the Eighth, Ninth and Tenth Circuits, and it is a matter of general knowledge that the industry extends throughout other Circuits in the

United States. It is also a matter of general knowledge that machinery and equipment companies, able in all respects to produce beet diffusion machines, are distributed throughout the entire United States. (R. 50-51)

It is true that the Appellate Court found (R. 360) that the Silver machine and the accused machine are the only diffusers which have thus far replaced the "Robert Battery" in the United States, but there is no evidence that respondent is now or likely to be free from competition. It cannot be argued with persuasion that competition can exist only if the Silver inventions are employed. In fact, the record shows that the Berge battery is now considered to be a successful machine and employs only the straight countercurrent flow system (See footnote, R. 360).

The cost of the machine and the effect of granting injunctive relief are inherent in many patent cases, and these circumstances alone fail to bring the facts of this case within the realm of the exceptions of the decisions of this court for granting writs in the absence of a conflict of decisions.

2.

Refutation of Petitioner's Second Reason (Petitioner's brief 87-117); There Are No Important Patent Questions Decided Contrary to This Court's Decisions: Under this section of petitioner's brief, there are eight subheadings, each of which is addressed to a particular aspect of the many factual considerations involved in the validity and infringement issues. Petitioner's arguments throughout, however, reflects its unwillingness to accept the clear findings of the two lower courts holding that (a) Silver did not disclaim processes and machines employing horizontal cells or, in other words, that there is no file wrapper

estoppel; and (b) that Silver's patents cover true combination inventions, not taught by the prior patents, which cannot be invalidated by dissection and a piecemeal attack on the separate elements standing alone.

1. **Petitioner's First Patent Law Point (Petitioner's Brief 87-97); Respondent Did Not Disclaim Horizontal Cells:** It is first said that Silver disclaimed horizontal cells, but as already shown the term "up and down courses" clearly referred to the path of movement of the cossettes and did not characterize the disposition of the cells. Further, both courts concluded this contention was entirely without merit when it was noted that Silver, in the specification of his first patent, said:

> " * * * it will be understood that the process also may be performed in cells disposed horizontally with a positive or gravity circulation of liquid employed." (Tab 11, Silver Ex. A, p. 2, Col. 1, 65-68.)

Besides, Silver proceeded to make a horizontal machine before acquiring any knowledge of Morton's activities (R. 119) showing that he fully contemplated machines having horizontal cells as well as those having vertical cells.

2. **Petitioner's Second Patent Law Point (Petitioner's brief 97-103); Courts Below Properly Construed the Claims of Silver's Patents:** Petitioner erroneously charges that the Circuit Court, when determining the nature of Silver's inventions, did nothing more than analyze the problem. The Court's decision, and especially the part thereof quoted in petitioner's brief, provides a complete refutation of petitioner's contention. Both courts found that Silver combined the countercurrent-concurrent type of system with an enforced submergence of cossettes by providing an up and down course of movement in each cell and then

combined these features with *draining* at the point of transfer between cells. This was the combination which produced success, which was not shown in the prior art, and which was employed by petitioner in its "Morton Battery".

At pages 102 and 103 of its brief, petitioner criticises the findings of fact and conclusions of law entered by the trial court on the grounds that they were drafted by respondent's counsel and reflect counsel's views rather than those of the court. The findings, however, were based on the Court's prior opinion and hence the regret that the lower court's opinion was somehow omitted from the record. Reference to that opinion, however, will show beyond doubt that the findings entered are those of the Court.

It is entirely clear from the findings of both courts that the "enforced submergence" referred to in petitioner's argument (Petitioner's brief 98) is the function of the "alternate downward and upward courses of cossette travel" which is included as a step in the process claims (see cl. 2 of Silver's first patent, Tab 11, Silver Ex. A). Also that the elimination of the juice "without mutilating the cossettes" is merely the function of "draining" also included as a step in the process. Whereas these functions were discussed by the court as throwing light on the significance of the steps, it is entirely proper to omit specific reference to such functions in the claims themselves.

3. **Petitioner's Third Patent Law Point (Petitioner's brief 103-105); Silver Invented New and Patentable Combinations:** This point has already been fully answered (pp. 5-8 above). Here again, the petitioner is urging that the prior art, which admittedly shows only the separate elements, one here and one there, should be considered as anticipations of the new combinations. No prior patent, however, combined the elements to produce a workable process or machine.

4. **Petitioner's Fourth Patent Law Point (Petitioner's brief 105-111); Claims 7, 9, 10, and 11 of Silver's Second Patent Are Not Invalid on the Ground of Double Patenting:** Petitioner is here urging invalidity of process claims 7, 9, 10, and 11 of Silver's second patent (Tab 12, Silver Ex. B) on the grounds of double patenting. Its argument, however, is based on the fallacious assumption that the subject-matter of the process claims of the second patent are directed to subject-matter disclosed in the first patent. This, however, is not the fact. The improvement claimed could not have been claimed in the first patent, as there was no disclosure in that patent to support such claims. That this is so, can readily be determined from a comparison of the patents themselves. The improved juice outlet is shown at "S" in Fig. 5 of the drawing of the second patent. No such outlet is found in the drawing or specification of the first patent (See Tab 11, Silver Ex. A).

5. **Petitioner's Fifth Patent Law Point (Petitioner's brief 111-114); Silver's Claims Were Properly Held to be Valid Combination Claims:** This point already has been fully answered. Both courts below recognized that the inventions consisted of a new combination of elements which produced a new and unexpected result, and that no claim was made to the various elements or steps as such. The fact that the elements may have been individually old does not detract from the patentability of the combination as such. The Circuit Court **properly held—**

> "Invalidity of a combination patent may not be established by showing that the different elements making up the combination are old" (R. 365).

This Court has held to the same effect in many cases—

> *Leeds and Catlin* v. *Victor Talking Machine Co.*, 213 U.S. 325, 332;

Expanded Metal Co. v. *Bradford,* 214 U.S. 366, 381;
Loom Co. v. *Higgins,* 105 U.S. 580, 591;
Seymour v. *Osborne,* 78 U.S. 516, 555.

6. **Petitioner's Sixth Patent Law Point (Petitioner's brief 114-115); The Morton Machine and Its Use Does Infringe the Silver Patents:** Argument on this point is believed to be unnecessary. Petitioner has failed utterly to show wherein the accused machine differs in any essential respect from the combination set forth in the claims in issue. The Circuit Court in concurrence with the lower court found that Morton, like Silver, combined the countercurrent-concurrent flow system employing a plurality of connected cells, with alternate *downward and upward courses of the cossettes* and *draining* of the cossettes at the point of transfer between cells, and further that the Morton battery—

> "performs the same work in substantially the same manner and accomplishes the same results as the Silver battery" (R. 368).

7. **Petitioner's Seventh Patent Law Point (Petitioner's brief 115); Prior Art Patents Do Not Anticipate Silver's Inventions:** Petitioner erroneously assumes that the two lower courts disregarded the disclosures of the prior patents because they had not been commercially used. This is not the fact, as can be readily determined from the findings of the courts below. It was not because they had not been commercially used that they were without significance as anticipations, but, rather, because not one of them disclosed a workable combination of steps or elements. The reason they were not used commercially is found in the fact that each and every one of them failed to provide a solution to the problem or teach a procedure which would

provide continuous diffusion such as would displace the "Robert Battery" in the industry.

8. **Petitioner's Eighth Patent Law Point (Petitioner's brief 116); Silver's Inventions Have Enjoyed Exceptional Commercial Success:** Only on rare occasions are courts called upon to pass upon patents covering inventions which have enjoyed the remarkable commercial success which characterizes the Silver inventions. The fact that Silver has produced the first commercial continuous diffuser employed in this country, and the further fact that a tremendous improvement in the treatment of beets with a marked saving in operating costs were realized, are undisputed. Further, there is no question about the fact that prior to Silver's inventions, the Robert Battery, which is a batch type of operation, has remained the standard equipment of the world for a period in excess of one hundred years, notwithstanding repeated efforts of numerous technical workers in Europe and this country to devise a continuous diffuser. In addition, there is no dispute about the fact that immediately upon the completion of the Silver inventions his battery displaced the Robert Battery in numerous beet plants in this country and Canada. Petitioner has attempted to minimize the importance of this success, but it is submitted that the record speaks for itself. (R. 27, 30, 364)

CONCLUSION.

The writ should not issue.

Respectfully submitted

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